Abstrakt

Tato diplomová práce se zabývá situací na celosvětovém automobilovém průmyslu v době právě probíhající finanční krize. Popisuje dané odvětví pomocí mikro a makro ekonomických modelů. Dále také uvádí globální trendy a specifika daného průmyslu. Autor prezentuje své názory na aktuální finanční situaci a analyzuje její dopady na automobilový průmysl. Tyto závěry se opírají o teorie strategického managementu a o analýzy dané problematiky. Na základě těchto poznatků pak autor navrhuje strategie, které by v kritických případech mohly vézt k záchraně a vyzdvihuje příležitosti, ze kterých by bylo možné profitovat.

Práce poskytuje čtenáři teoretický pohled na aktuální ekonomickou situaci v automobilovém průmyslu a nabízí autorovy hypotézy na strategie, které by mohli vézt z krize v tomto odvětví.

Abstract

This thesis describes the situation in the global automotive industry in time of crisis, using micro and macro economics models. It specifies the global trends and characteristic of the industry. The author then gives his opinion on the recent situation and the impact of the crisis on financial markets on the automotive industry. Based on theoretical background of strategic management, and analysis of the given problematic, the thesis offers possible survival strategies for the most critical cases and shows the opportunities, which might be used to profit from this economical downturn. The whole work gives the reader a theoretical perspective about the current situation in the automotive industry and provides authors hypothesis on the problematic of finding a way out from the crisis in this specific branch.

Klíčová slova

Strategie, strategický management, analýza odvětví, automobilový průmysl, globální krize

Key words

Strategy, strategic management, industry analysis, automotive industry, global crisis

Bibliographic citation HAMPL, O. *Strategická východiska z krize v globálním automobilovém průmyslu*. Brno: Vysoké učení technické v Brně, Fakulta podnikatelská, 2009. 84 s. Vedoucí diplomové práce doc. Ing. Stanislav Škapa, Ph.D

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Acknowledgement I would like to express my thanks to Prof. Karl-Heinz Schumacher for valuable guidance, his support and advice while processing this diploma thesis. Furthermore I would like to appreciate the help of doc. Ing. Stanislav Škapa, Ph.D. for providing the administrative and professional help during the whole European Business and Finance program duration.

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1. Introduction

At the beginning of this thesis, the author overviews the situation on the global financial market. It needs to be looked at the origin of the current situation, because it gives the consequences and explains many aspects of the downturn in economy and many industries.

When talking about financial crisis, it must be understood the connection between financial markets and the rest of the segments of global economic system, such as production industries, services, political systems and raw material markets. Those exist parallel and any major fluctuation in one of them has large impact on the others. This will be closely described through this whole thesis and some examples will be given to illustrate the connectivity and the way, how each segment influences the others. The scope of this paper will be focused on the global economic system, but some chapters will examine the problematic on a regional level, just to explain the impact and complexity of the economic system from the top-bottom perspective.

In order to analyze the situation in automotive industry, the author uses macro economical tools of analysing, such as the Porter analysis, PEST analysis, as well as defining the global drivers in this industry and specifying the key success factors. Using those tools the thesis offers illustration of the industry and its market as a whole. Because automotive industry is from the majority driven by its biggest players, which are the "Detroit big three" – Ford, Chrysler, GM and the Asian concern Toyota, the paper will analyze those companies in detail, it describes their strategies and how the unfavourable situation on the market has influenced them. These companies represent the biggest employers and economical drivers in their regions, so their success or failure has a wide spectrum of impact. In order to analyze their situation, microeconomic tools will be used. SWOT analysis, marketing policies and product positioning will help to describe the companies' situation and future outlook.

The current situation on the market is not easy to handle and the slowdown in sales in automotive industry has a very complex background, that is why the given strategies and solutions, which this thesis offers have more theoretical perspective. Despite this, the author tries to give his own specific solutions and survival strategies, but

with the large scale of the industry these might be very costly and risky. But critical situations demand critical solutions.

2. Background of the crisis

In general the crisis can be described as a stock market failure, collapse of large financial institutions and government interventions to bail out the financial system. [1] The detailed study of this situation will be given in this chapter.

2.1. Subprime mortgage crisis

Even though the financial collapse has exploded in the second half of the year 2008, it has been reported many month earlier, that there was a financial instability of the U.S. and European investment banks, mortgages banks and insurance firms due to subprime mortgages crisis. This subprime mortgages crisis has its origin between years 2003 and 2007 when they recorded a 293% increase. Offering mortgages to borrowers without any credit history and with no verification of their income, together with adjustable rate mortgages meant a great incentive for Wall Street's involvement in high-risk lending. This conditions has encourage borrowers to accept difficult mortgages with the belief they would be able to refinance them quickly by in more favourable terms. But when the interest rates began to rise, the prices of houses decreased and the refinancing was more and more difficult. As the house market became over-filled with confiscated houses, their price has dropped even more. [2]

2.2. Mortgage backed securities (MBS)

Like any other securities, mortgage backed securities are bonds financed by home mortgage payments. Mortgage principal and interest are paid by the home owner to the MBS holder. This tool allowed the investors from all around the world to invest into U.S house market, and because the prices of these bonds are derived from interest rates and house prices, the financial institutions and investors involved in this market had recorded massive losses by approximately US\$ 435 billons to the date of 17 July 2008.

2.3. Federal banks and government involvement

The rapid downturn on the financial market and the risks suddenly involved in stock exchange trading had lead many central banks to take action towards stabilisation of the situation by cutting the interest rate. Governments had also prepared and

implemented stimulus packages which should bail out major financial institutions and restore trust in the stock market. The incorrect action of federal agencies, such as the incorrect rating of high risk mortgages as AAA securities in total value of 3.2 trillion US\$,(2) or the late actions of monetary policies of federal banks caused the major failure on the weakened market. This whole downturn put further pressure on the main economic engine – consumer spending. [1] Because of that, many industries were affected by low demand, they were recording surpluses in their production and had to take action to reduce costs, which once again affected mostly employees, who were losing their jobs. This has created a loop, which led again to low will of consumers to spend their savings.

2.4. Discussion on possible responses

As mentioned in previous article the federal reserves and central banks, which control the monetary system in the U.S. has taken some major action, to stabilize the financial market. Those actions included multi billion dollars injection into the system, regulations of the interest rates, open market operations to ensure member banks remain liquid or they adjust the rules for mortgages lenders. The discussion on the success and impact of those responses would lead to a separate thesis, but one can be stated in general - the main failure of federal reserves and central banks was their policy, which is not set up to prevent such bubbles like the one on the housing market (from history also the dotcom crisis), but they only take place when those bubbles burst.

Government regulations represent another way of responses to any economical fluctuation. Many experts involved in global economy argue, that state regulations should be kept under a certain level, because the bigger state interventions the smaller is the role of market capitalism. This might, according to some experts lead to reestablishing the state control economy and in extreme cases to socialism principles. On the other hand the situation has become very crucial and in some cases are the state interventions the only possibility left. This will be further discussed on the particular case of the crisis in automotive industry.

Steps that have been made using regulations, include: [3]

house and Senate in the U.S. are both considering bills to further regulate lending practices;

- restricting leverage, and preventing companies from becoming "too big to fail.":
- temporary ban on short-selling the stock of financial firms;
- Federals regulatory powers was proposed, that would expand its jurisdiction over nonbank financial institutions, and its authority to intervene in market crises.

The losses of many financial institutions caused by mortgages backed securities and other assets purchased from borrowed money reduced their financial base. Here again came the government injection to bail them out. On October 3rd 2008 the Emergency Economic Stabilization Act of 2008 was signed by President George Bush. This pact also included \$700 billion in funding which was mainly aimed to purchase mortgage back securities and collateral debt obligations from financial institutions. This act has started a huge discussion among politicians and experts in the world. On one hand for example British Prime Minister Gordon Brown or that time presidential candidate and Senator Barack Obama both supported this plan, saying it was essential to restore stability to the markets. [2] On the other hand, senator of Kentucky Jim Bunning said: "The Paulson plan will not bring a stop to the slide in home prices. But the Paulson plan will spend 700 billion taxpayer dollars to prop up and clean up the balance sheets of Wall Street. This massive bailout is not a solution. It is financial socialism and it's un-American". [2] It is now too soon to be clear about the real impact of this plan, but the author supports the opinions which are refusing this plan in its original version. The author inclines to believe the opinion of economist from over 100 U.S. universities who attack this plan from three perspectives, which they find fatal: [1]

- its fairness why should taxpayers pay for risks the investor deliberately took;
- its ambiguity neither the mission of the new agency nor its oversight are clear;
- its long term effects U.S. innovative markets has brought unparalleled prosperity. Weakening those markets in order to calm short-run disruptions is short-sighted.

The U.S. were not the only one with high budget rescue plan. For example the European central bank has injected almost \$100 billion into one-day money market auction. British government has announced a bank rescue package of around £500 billion. This bail out was aimed to help the banks to increase market capitalization, half of the money

was used to temporarily underwrite bank lending and they help the banks with their liquidity. These actions were taken at the end of 2008. In March 2009 the European Union has announced that they are refusing the strong pressure from the United States to increase the budget deficit. This means a slowdown in injecting money into capital market. [1]

3. Automotive industry

3.1. Introduction

The growth prospects of a national economy are largely determined by its key industries. In recent decades, the automotive industry in many triad countries has proven to be one of the strongest drivers of technology, growth and employment. If it were a single country's economy, the global automotive industry – with total sales of around €1,900 trillion – would be the world's sixth largest national economy. More than 8 million people are directly employed in the process of manufacturing vehicles and parts alone. That equates to over 5 per cent of all people directly employed in industrial manufacturing, and many times more than that if those indirectly employed in the automotive industry are included. More importantly, though, the automotive industry is now the world's biggest innovator, investing an estimated total of just under €70 billion a year in research and development. This makes it a driver of technical progress and is the main factor behind the increasing technological connectivity between industry segments. Original equipment manufacturers (OEMs) are also among the biggest contributors to national revenue, pumping some €450 billion a year into state coffers in 26 countries. This proves that the automotive industry has also assumed socio-political responsibility, and its contribution to the future of our national economies is greater than that of almost any other industry. The car is indispensable to society, and the automotive industry is equally indispensable to the development of our communities. [4]

3.2. Crisis in automotive industry

The conditions described in previous text have influenced manufacturers in almost all industries. As mentioned before, the buying power and willingness to buy of consumers has decreased rapidly. Following chapter will explain the connection between financial crisis and the downturn in automotive industry, with consideration of other aspects on the global market influencing automotive industry, such as the oil prices and climate changing.

3.2.1. Impact on the automotive industry at the beginning of 2009

Rising unemployment, sharp declines in industrial production, deteriorating financial performance in virtually all sectors of the global economies are continuously the main features of the global economy in the first quarter of 2009. These unsettling factors continued to increase investor uncertainty, significantly impacting M&A activity.

In the worse situation are at this moment the US giants GM and Chrysler, which after the governmental bailout from December 2008 operate under the oversight of the Automotive Task Force management teams established by President Obama. The outcomes of those teams for both GM and Chrysler have implications across the entire industry. A bankruptcy or forced liquidation of GM or Chrysler could lead to a wave of auto supplier shutdowns, and has the potential to cause major disruptions to the operations of Ford as well as foreign OEMs. Although, a supplier restructuring and related capacity reduction may be needed, it will required a degree of coordination by surviving OEMs and lenders

Despite the difficult economic environment experienced over the past three quarters, there are signs that the worst may soon be over. The U.S. Department of Commerce recently observed an increase in consumer spending through Q1 2009, despite falling income due to continuing layoffs and unemployment. [5] This quarterly increase in consumer spending followed six straight months of declines in spending occurring from July through December 2008. As credit markets continue to thaw, consumer spending is anticipated to increase through the end of 2009, and could be an indication of improved automotive sales volumes by the end of the year. In fact, J.D. Power and Associates has projected production volumes of over 2.2 million units in Q2 2009, a 31% increase over Q1. The restructured operations of GM and Chrysler, supplier rationalization, an increase consumer spending and stabilizing production volumes will be key drivers of an industry recovery

Generally speaking, according to expertise analysis the major impact of the credit crunch on the automotive industry could be identified as follows: [5]

- rapid decrease in consumer spending on cars especially in US and Europe;
- sharp decline in car sales across most markets;
- credit freeze on consumer car financing;
- > consolidation and restructuring actions;

- headcount reductions:
- move to delay or reprioritize new product programs to conserve cash;
- > profit warnings of significantly lower margins.

The following chart shows the annual passenger car registrations and its decreasing tendency. Especially for the North America region are the years 2008 and 2009 seen as the most critical (the outlook for the years 2009 to 2012 is based on estimated values).

Table 1 Annual passenger car registration (millions of cars)

Region	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
North										
America	17.5	17.7	17.8	17.4	17	15.9	15	15.1	15.7	16.1
Japan	4.5	4.8	4.7	4.6	4.4	4.2	4.2	4.5	4.4	4.4
Western										
Europe	14.2	14.4	14.5	14.7	14.7	14.1	13.8	14	14.5	15.1
Asia and										
Australia	6	6.4	7.2	8.4	9.9	10.9	12.2	13.7	15.3	17.2
Latin										
America	2.1	2.6	2.8	3.1	3.7	4.1	4.3	4.6	4.9	5.1
Middle										
East &										
Africa	0.7	0.9	1.1	1.3	1.4	1.6	1.7	1.8	1.9	2

Source: Deloitte Automotive Update report, Q1 2009

According to the decreasing trend of vehicle registration the major car producers recorded decline in their financial results. Following drawing gives a closer look on the situation of the biggest players in the global automotive market in for the end of year 2008.

Table 2 Comparison of top three automakers at the beginning of the 2009

Rank	Company Name	Sales Impact	Profit Impact	Comments
1	Toyota Motor Corporation	Global sales fell 4 percent, the first such quarterly decline for the Japanese automaker in seven years - total sales for of 7.05 million vehicles. \$10 billion in total sales expected for FY09 (down from \$15 billion)	dropped 69% to \$1.4 billion in the Q4 quarter	

2	General Motors Corporation	Worldwide sales down 11 percent to 6.66 million vehicles. JD Power and Associates cut its forecast for United States sales this year to 13.6 million vehicles, a 16 percent decline from last year's total, and it said 2009 sales could fall as low as 13.2 million.	and ended the year with \$21 billion in cash. However, the company is burning through more than \$1 billion a month and has been unable to tap the debt market to raise	requested \$18 billion bail out. G.M. is trying to cut \$10 billion in costs and raise \$5 billion though the sale of assets like its
3	Ford Motor Company	Nov. 2008 vehicle sales were 103,055 vs. Nov. 2007 vehicle sales of 147,310 (-30.0%). Trucks sales were 81,546 vs. Nov. 2007 sales of 114,819 (-29.0%) Plan to produce 430,000 vehicles in the first quarter of 2009. During the first quarter of 2008, the company produced 692,000 vehicles.	with a major reorganization plan on December 3, and said it would break even or restore profitability in 2011 if up to \$9 billion in emergency financing	savings with unionized workers and an investment

Source: Deloitte Automotive Update report, Q1 2009

3.2.2. Consumers' change in behaviour

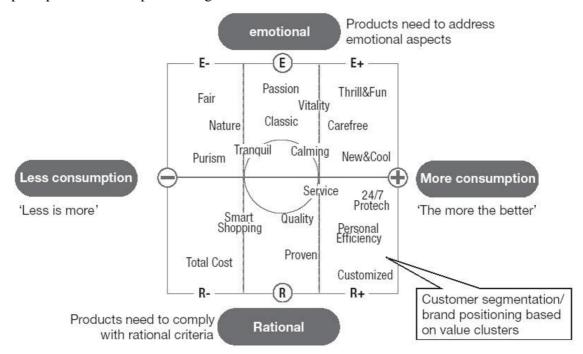
Because the industry and its consumers are influenced by the financial crisis as described in previous paragraphs, the consumers` preferences change as well. Generally speaking the whole industry must prove to its customers` that car transportation can become more effective and flexible than it ever was. The trend of nowadays is to buy smaller, less fuel consuming cars with higher value for the customer. For example the small Smart has more than doubled its popularity over the last year. On the other hand luxury cars are taking the hit. For example, according to the Society of Motor Manufacturers and Traders (SMMT), sales of Porsche cars are down 26.6 per cent. [6]

In order to remain in game, in this turbulent environment, the car producers have to more closely examine the customers' needs. From this perspective there can be defined following key success factors corresponding to customers' behaviour:

- detailed knowledge of customers' needs;
- > exact definition of the target group;
- > clear definition of the brand's value proposition and positioning;
- sharp focus on the value proposition of, and target group for, product and service offerings;
- professional communication with customers throughout, down to the point of sale in the car showroom.

With this key factors listed, the main challenge is to identified the customers' needs according to brand's value proposition. In today's situation, the traditional models that forecast consumer behaviour solely on the basis of social background and income no longer give accurate guidance. That is why the value-based model gives much clearer and more precise overview of customers' behaviour. [4]

The following model called RB profiler was developed by Roland Berger Strategy Consultants. It consists of 19 key values, which give the opportunity to segment the customers on the basis of their preferences and aversions, but also based on their perception of brand positioning.



Source: Roland Berger Strategy Consultant

3.2.3. Producers' response

The car manufactures could not remain still, when the demand and customers behaviour is changing in the way described above. The major response from the manufacturers was a varied approach to products and costs. It must be stated, that it is not only a response to the crisis but a long perspective development trend. For example, one of the main Germany automakers Mercedes-Benz and BMW attempted successfully to move into new segment, even though less profitable but from the strategic point of view important compact class segment (A class and the 1 series). In contrast, Volkswagen has gone the opposite way, entering the SUV segment with Tuareg and the luxury car segment with Phaeton. This growing trend for vendors, to set themselves apart by developing innovative niche vehicles, is constantly spawning new sub segments. Recent years has shown an explosion in niche segments, which proves the effort of manufacturers to support their sustainable strategies. The following chart of Mercedes-Benz's product portfolio development illustrates this trend of widening product range.

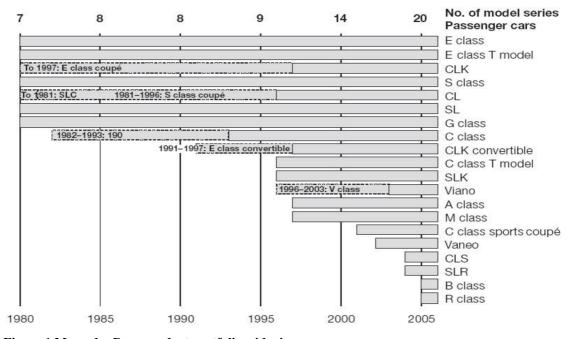


Figure 1 Mercedes Benz product portfolio widening

Hand in hand with the production portfolio restructuring, goes cost approach to become flexible and more effective according to changing customers` demand. The development is being optimized as well as sourcing and production processes.

A good way how to achieve this flexibility is to involve the suppliers into a partnerpartner collaboration. This involvement of part suppliers into the early stages of development saves time and money and offers higher flexibility in change management. Another method, how to develop a great potential of the company's value chain is to adopt strategies of standardization based on common platforms and identical parts.

3.3. Crisis in oil and raw materials industry

From the beginning, the crisis has been looked at from a global point of view. In order to reveal the wider consequences and the impact it has, it must be identified also the current situation in the industries influencing the automotive the most.

As one of the most capital-intensive industries in the world, the oil and gas sector requires tremendous and continuous investment to maintain and grow reserves in the face of accelerating depletion rates from the world's known oil fields. While some international oil companies (IOCs) and national oil companies (NOCs) have the option to finance projects and exploration through cash flow, mid-tier organizations, independents and downstream providers traditionally rely on debt and equity financing. Although this model has worked to the industry's benefit for years, the global financial crisis is now taking a toll on companies of all sizes. Predictably, tighter credit markets are impelling smaller operators to defer expansion or capital projects, limit development and even sell off assets. [4]

The oil companies are mostly facing the very similar challenges the automotive companies have to face. This is another reason why those two industries cannot develop throughout the crisis separately.

They must take a long-term view as they tackle their cost-cutting and process-improvement initiatives. More than this, they must identify viable options either to grow or simply to sustain their businesses – from exploring for new reserves and attracting new talent to engaging in strategic partnerships, mergers and acquisitions.

Prices in raw material industries have reached unexpectedly high levels during 2008. The price increases in steel production were on the one hand driven by the extra costs of iron ore, bituminous coal and scrap metal, and, on the other hand, the fact that supply in the years of industrial boom up to mid-2008 was not able to keep pace with demand. The monthly price increases for the most important metallic raw materials used in automobile production have led to significant extra costs in the value added chain. [7]

Following this period of high demand, came the slowdown in related industries (automotive, steel industry) and the raw material suppliers had to cope with decrease in demand. This was and still is a crucial time for negotiating long term strategic contracts with buyers, in order to secure stable incomes in the future.

From the bad situation on the raw material market could, with good strategic planning, profit auto manufacturers. As many cases on the market show, the mergers and acquisitions of raw material suppliers and manufacturers is a good way, how to secure future of the suppliers and how manufacturers can save costs on materials and custom supplies.

4. Data analysis tools

In order to reasonably forecast the future development on the market, among the manufacturers and the future situation or trend a particular company should follow, there must be used a number of theoretical analytic tools. Some of them are focused on the companies' situation and its possibilities and other are designed to illustrate the situation on the market and describe the overall trends in the industry.

4.1. SWOT analysis

SWOT Analysis is an effective way of identifying company's Strengths and Weaknesses (internal factors), and of examining the Opportunities and Threats the company face (external factors). In order to implement this tool correctly the researcher should focus on the following areas by answering or developing the suggestions listed in the matrix bellow. [8]

Table 3 SWOT matrix structure

Strengths	Weaknesses		
Advantages the company has	The areas the company could improve		
Processes they do well	Bad processes company runs		
Resources they have access to	What are the issues, which should be		
Good marketing distribution, reach,	avoid		
awareness	Lack of competitive strengths		
Developed Processes, systems, IT,	Poor process and system management		
communications	Low cash-flow and financial base		
Strong financial portfolio			
Opportunities	Threats		
New trends on the market or in industry	Increasing power of competitors		
Changes in social patterns, population	Loss of key resources due economic		
profiles, lifestyle changes	downturn		
Positive government policies influencing	Negative political and legislative effects		
given industry	Low market or industry demand		
Attractive niche markets	Lack of new technologies and		
Technology development and innovation	innovation		

4.2. PEST analysis

This analysis describes the external business environment of the company. It analyses the impact of political, economic, social and technological factors on the business. The results can then be used to take advantage of opportunities and to make contingency plans for threats when preparing business and strategic plans. [8]

Political factors have huge influence on the business environment, because it influences many other aspects surrounding the company. The political changes may influence economic, social or cultural values, which may change the consumers' perception of the market and thus influence the company conditions. Among these factors belong e.g. legislation issues, government policies, trading policies, international politics and relations

Economic factors play mainly an important role when a company is operating internationally – exchange rate fluctuation. But also on the domestic scene can be very important following aspects – domestic interest rates, level of inflation, taxation, market and trade cycles etc.

Social-cultural factors may vary from country to country. Because of the cultural specific of each country, these factors have impact on strategic decisions when for example considering foreign market penetration, or mergers and acquisitions. Here belong the ethnic and religious issues, fashion and role models, consumer attitudes and opinions etc.

Technological factors can impact the business success of a company, because who doesn't keep up with new technological trends is often out of business. On the other hand, environment with quickly developing technologies offer large possibilities for competitive advantage and success (e.g. when technologies allow to produce faster with lower costs, or offer more innovative products to the customer).

4.3. Porter five forces analysis

Michael Porter has developed a model, which helps to analyze the attractiveness of an industry for a business. The framework identifies following five factors influencing the competition and profitability in an industry. [8]

Suppliers – the power of suppliers is strong where:

- control over supplies is concentrated into the hands of a few players;
- costs of switching to a new source of supply are high;

- the supplier has a strong brand;
- the supplier is in an industry with a large number of smaller disparate customers.

Buyers have strong position where:

- a few buyers control a large percentage of a volume market. For example, grocery and electrical goods retailers in the UK dominate the market and are in a very strong position versus their suppliers as a result;
- there are a large number of small suppliers. In the meat industry in the UK there are a large number of small farmers supplying a retail sector dominated by a small number of large supermarkets;
- the costs of switching to a new supplier are low.

Potential entrance threats are determined by the number of barriers for entering the industry

- the capital investments necessary to enter the industry are very high (e.g. chemical industry);
- achieving economies of scale in production, distribution or marketing can be a necessity in certain industries (e.g. automotive, oil industry);
- paining access to appropriate distribution channels can be difficult. For example Peugeot/Citröen bought Chrysler's entire UK operations in order to gain an effective dealership network in Britain;
- povernment legislation and policies such as patent protection, trade relations with other states, and state-owned monopolies can all act to restrict the entry of competitors.

The threat of *Substitutes* could arise in several ways:

- a new product or service may eradicate the need for a previous process. Insurance services delivered directly by producers over the phone or internet are substitutes for the services of the independent insurance broker;
- a new product replaces an existing product or service. Cassette tapes replaced vinyl records, only to be replaced in turn by compact discs;
- all products and services, to some extent, suffer from generic substitution. Consumers may choose to substitute purchasing an expensive holiday instead of buying a car.

The intensity of competitive rivalry could be determined by range of factors:

- the stage of the industry life cycle will have an effect. Natural growth reaches maximum once an industry reaches maturity, so the only way an organization can continue to grow in the industry is to take market share from its rivals;
- the relative size of competitors is an important factor. In an industry where rivals are of similar size, competition is likely to be intense as they each strive for a dominant position. Industries that already have a clear dominant player tend to be less competitive;
- in industries that suffer from high fixed costs, companies will try to gain as much volume throughput as possible. This may create competition based on price discounting;
- there may be barriers that prevent companies withdrawing from an industry. This may be plant and machinery that is specialist in nature and therefore cannot be transferred to other uses (e.g. mining industry). If the industry is in maturity, moving towards decline and rivals cannot easily leave the industry then competition will inevitably increase.

4.4. Strategic management

The term strategy involves very complex concept, which is impossible to be described in one or two sentences. When defining strategy there are many areas and view point from which it could be looked at. Following text will give the reader the basic ideas and principles of strategic management.

4.4.1. Elements of strategy

Strategy contains of many aspects and each can be more described as a set of very complex segments. This is an overview of the basic elements which will mainly be used later during practical implementation of strategy.

Purpose and mission- core factor of the companies` existence. There are three main purposes of the company existence: create shareholder value, meet the expectations of all of the stakeholders and create higher order in that it is aspirational and idealistic, or challenging and inspiring.

Polices – guidelines and rules that are regarded as an integral part of the company's 'success model'. In other words it simply means the things which the company does and how it does, which help the organization to sustain competitive advantage.

Objectives or goals – financial or nonfinancial target which are planned to be achieved over medium or long time term. They should be measurable and valuable.

Key success factors - things that a business must be able to do exceptionally well if it wants to achieve a leading position in a particular market.

Sustainable competitive advantage – this is mainly the reason why a strategy is developed. To achieve a position on the market, which would bring higher revenues than its competitors. And keep this position over significant period of time.

From the viewpoint of on which level the given strategic decision should be made the theory divides it into corporate and competitive strategy. [9]

4.4.2. Corporate strategy

On this level is in majority of cases involved the head management. They deal with decisions such as: [10]

- company's mission or purpose;
- > values and principles that should govern the behaviour of members of the organization;
- industries or market segments should it enter or leave;
- > and also the appointment of the chief executives of the operating divisions.

4.4.3. Competitive strategy

Also known as business strategy, it includes decisions about achieving a sustainable competitive advantage, in which the particular the division operates. This involves correctly determining what the critical success factors in given market field is and so managing the business as to meet these more successfully than competitors. [10]

4.5. Blue oceans strategy

On the other end of strategy approaches from competitive strategies lies the strategy of blue oceans. Basically it claims that success is (but not only) achievable by not competing with current competitors but to develop a market segment where the competitors have no power. It might seem similar to the theory of gaining

competitive advantage brings the desired success. But in many cases the approach to gain competitive advantage does not equal gaining success (many competitive advantages are difficult to be long time sustainable). The theory of blue oceans offers a market environment where the competitors would not be able to harm the position of the company, or where there are enough possibilities that the competition rivalry is none or very low (according to Porter's model). Some can argue that every blue ocean must be imitated at some point, and thus become a competitive environment – red ocean. The theory defines following reasons for other companies not to follow the same strategy of blue oceans. [11]

- Entering the new blue ocean segment doesn't correspond with the company's conventional logic;
- the market often cannot support more players;
- patens or legal permits limitations;
- cost advantage of the market innovator due to high volumes, discourages others:
- The theory consists of definition of two market environments red and blue oceans.

 Red oceans those are all the existing industries today. In these industries the competitive rules and boundaries are known. The market space is limited and the companies competing on the market come to a point, when the prospects for profit and growth are minimized and high rivalry for getting higher market share takes place.

 Blue oceans on the contrary are defined by the markets not existing today. There is untapped market space, demand creation, and the opportunity for highly profitable growth. This new market environment doesn't have to always grow beyond the boundaries of existing markets (red oceans) but is often inside those, to extend the possibilities in given industry. This approach could be crucial in today's crisis in many industries, including automotive. In appendix could be seen some examples from the early years of automobile industry and how blue oceans strategies play role

4.5.1. Tools for strategic analysis

in success back then. [11]

The basic concept of developing and deploying the right strategy of blue ocean is to create so called strategy canvas, which illustrates the situation on the given market and

defines the position of different products. The core element of this concept is the *value curve*. This curve is a graphic illustration of a company's relative performance across its industry's factors of competition.

The value curve is not static and in order to be able to adjust the curve to correspond the actual needs and to be able to diverse and create new blue ocean, there are four areas of interest for the company to be answered. Firstly there is a question of what factors, granted in the industry, should be eliminated. Secondly, what factors should be eliminated below the industry standards and which should be raised well above the standard. Last but not least it should be considered what factors, the industry has never had, should be created.

The following step after facing the questions formulated in previous paragraph, is to implement a method how the company pushes those idea through their decision making process. This four action framework is called the *eliminate-reduce-raise-create grid*. This approach drives the companies to evaluate every factor the industry compete on, which makes them discover the range of implicit assumptions they make unconsciously in competing.

After implementing above described grid, the successful strategy should combine the following three characteristic. It must be *focused*. This means that every decision, the company makes, must be clear and 100% oriented, which must the value curve clearly show. Because the blue oceans are markets beyond the boundaries of currently existing, the new strategy must prove high *detergency* from the industry average. From marketing point of view, to make the strategy successful it must have a *compelling tagline*. A strong tagline can assure interest and trust from the customers` side. [11]

5. Situation in Europe

This section focuses mainly on the particular analysis of the situation in Europe during the crisis. The author describes the overall situation on the market, using tools listed in the first section of the thesis. The case of German market segment is used for implementation of PEST analysis, so there can be drawn specifics outcomes and conclusions on particular examples.

As a company for closer analysis has the author chosen the Volkswagen concern, because it represents the major producer on the European market. VW AG has also offers space for analyzing its foreign strategic activities, because it is approaching to enlarge its market shares on important global markets.

5.1. Porter's five forces analysis of automotive industry

5.1.1. Threat of substitutes

The potential threat of substitutes in transportation from the long term perspective is quite mild. There are several other alternatives of transportation but the car segment offers the comfort, utility and independence not comparable to others means of transportation. There exist several exceptions, where the alternatives to car transportation gain significant advantage over automobile. For example, when considering using car in urban areas, where the population density is high, the comfort and speed of transportation is lost, due to the traffic jams, parking difficulties etc.

Generally every possibility in transportation has its own specifics, and the intersections from one segment to another are quite small. Every potential user of any king of transportation can for example choose the way of going to holiday. Bus, plane and car might be his alternatives. But even if he chooses bus or plane, it doesn't mean, he already doesn't own a car, or that he refuses to buy one. It's only the matter of individual needs and preferences. According to statistical research from 2008 (see appendix 13.3) the car still remains the most important mean of transport – for both freight and passenger transport. [5]

The current economical crisis offers another evaluation point of substitutes` threats in transportation. Because people are trying to cut their expenses, the decision making will be nowadays heavily influence by the means of costs of transportation.

The fluctuating cost in oil industry influence in many cases the purchase of a new car. People in situations, when they wouldn't normally consider another alternative but buying car, can now delay their final decision, and choose cheaper ways of transport (such as train or bus) and give up the comfort and individuality offered by car. This is a very important aspect in today's global situation for the car manufacturers. They have to take into consideration these increasing threats of transportation substitutes as means of general transportation and adjust their strategies to it.

5.1.2. Threats of new entrance

The automotive industry is characterized by huge amounts of capital needed to start any new business within it. This sets the barriers for entry very high, and every new entry cannot happened unexpectedly and fast, and recently is not thinkable that a new major player would appear on the market.

There are several efforts in developing countries, to start a new local brand with the competitive edge of the knowledge of the domestic market. [7] These efforts, when successful are then anyways snatched up by some of the major players on the market. This leads to only possible new entrance in the industry. Not entering the global market by new producers, but penetrating local markets by well established companies, in order to strengthen their global position. This factor of Porter's analysis significantly influences the strategic management of the majority of current global automakers. The trend is to go global through precise mergers and acquisition strategies.

5.1.3. Power of suppliers

The automotive sector has its many specifics. One of them is that in majority of cases, in the supplier-buyer relationship is the supplier from more than 90 percent dependent on one or two buyers (especially when supplying for one of the big manufacturers). [7] Because the automotive parts are mainly standardize commodities with the only use on cars, in case, when the buyer decides to switch his supplier it often has devastating consequences for the supplier. In response to this, the suppliers in such cases hold very little power in negotiating business conditions.

On the other hand the if the supplier and manufacturer build a long term business relations, they can develop a customize supply chain, which would exactly correspond to the manufacturer's needs and suppliers possibilities. These relations could also be

helpful in times of a downturn. If the supplier is negatively influenced by the economical slowdown, the manufacturer may develop a acquisition strategy with long term impact, and take over the supplier. A good example is the acquisition strategy of Ford, who with its purchase of automotive parts producer Visteon, secured future stabilization of its supplies, and now posses better control over the supplier which leads to optimize cost of delivery and allows on-time supplies which makes Ford's production more effective.

5.1.4. Power of buyers

The bargaining power of buyers is with the deepening crisis rising. When looking at the power of consumers form the historical point of view, the position of the automakers remained unchallenged until one point. The decreasing demand and large portfolio of products has given the consumers higher bargaining power than ever before.

The fact that possibly no customer (except for governmental purchases) is able to buy large amount of vehicles, increases the bargaining power the car sellers hold. Even though the competition for the customer is continuously higher so the real power does come to the hands of individuals. According to this fact the expressions "brand attractiveness" and "customers' satisfaction" should come up to many marketing and strategic decisions, when thinking about surviving the economical downturn. [12]

5.1.5. Competitive rivalry

The degree of rivalry in automotive industry is very high. Despite the current situation on the European and global market, auto market even from the historical point of view could be looked at as an oligopoly environment. There are not many firms on the market, which could compete on the global scale and each of them is trying to achieve the economy of scale. This fact is even highlighted by the fix costs associated with manufacturing cars and low switching cost for customer when deciding to change to another product. [4]

Fairly new trend in competitive rivalry is the price-based competition. Automotive market has gone through many phases, where each brand had its customers, so there was no place for price competition. As the products were becoming more similar and less diversified, the main focus of the manufacturers (aside from technology) was

to gain the price advantage. This pricing battle has led to increase of pressure on profit margins strategies, which in time of financial crisis is very hard to achieve.

5.2. German market analysis

Automotive industry has the role of one of the most important industries and one of the biggest employers in Germany. In the year 2008 the total amount of jobs offer in the automotive segment has increased by 12,000 up to 757,100. In the year 2009 employment will be linked to the extent of the weakening on the international markets. [13] It is hard to predict if this weakening will be short-term and thus the levels of employment would sustain its level. But if the decreasing trend remains over longer period of time, adjustments in employment volumes must take place, along with cutback in production.

Also the development of sales was affected by the financial crisis. The year 2008 had two very different half. After raising by nearly 7 percent in the first half of 2008, thanks to the sustained upward trend in commercial vehicles and the stable export trade, the turnover of the German automotive industry dropped sharply by 9 percent in the second half of the year. [13] The impact of the financial crisis led to a decline of turnover in the sector for the first time in 15 years (see appendix 13.3).

According to the statement of Matthias Wissmann (president of German Verband der Automobilindustrie), the German automotive industry is able to sustain its research and development activities and thus secure the future of the industry. He claims that the German automakers are able to offer high level of technology development to the customers all over the world and remain strong on the key markets. [13]

R&D efforts to reduce greenhouse gases and increase fuel efficiency are largely independent of the crisis. The efforts that need to be made, especially with regard to attaining CO₂ objectives, are still considerable. Also the increasing requirements for technical safety and economy in automobiles can only be met on the basis of intensive research and development activities. [13] In order to increase its innovative strength, over the last few years the German automobile industry has successively forced its research efforts. At 18.9 billion Euro, expenditure by the German automotive industry on R&D in 2008 represented just under a third of total expenditure by the whole of German industry on R&D (see appendix 13.3).

The high volume of financial flows in R&D supports the effort of German industry to reduce its dependency on fossil fuels. The German automotive industry could be called the pioneer of alternative fuels and new engine types. It also was the first industry to take the initiative to make vehicles suitable for increasing the amount of bio-fuels which could be added to conventional fuel, but it has also developed new engine concepts to the point of being ready for mass production. This tradition in investments into alternative technologies and broadly based strategies in this field is the future driver on the way forward.

5.3. PEST analysis of German and European automotive industry

The analysis illustrates the general situation on the European market, which is influenced by the existence of the EU, and gives in some aspects the perspective of the German market segment during economical downturn.

5.3.1. Political

The European market has large and very specific political driver – European Union and its legislative departments. As stated on the official website of the European Commission the aim of its work is focused on strengthening the competitiveness of the European automotive industry. Their goal is to achieve this by following these three main objectives: [14]

- complete, adapt and simplify the Internal Market regulatory framework;
- promote globalization of the technical regulatory framework through UN/ECE (United Nations Economic Commission for Europe);
- > strengthen the competitiveness of the automotive industry.

This means for every car manufacturer within the EU that it has open a large and diversified market, with many different opportunities and due to the internal framework, doesn't have to face complicated legislative procedures when penetrating new market in the EU. On the other hand, in order to fulfil the safety-related regulations, it strengthens the conditions under which a car can be approved for use.

These politic conditions within the EU could bring many opportunities for manufacturers, which have the background of large organizations and are able to produce effectively, and easily fulfil the safety and environmental-related regulations.

It opens them new markets, where they can compete on the regional level, and thus wider their market portfolio. Producers, who are oriented on niche segment and are more custom manufacturers, might compete with strong regulations, and the market could be closed for them.

The rules that the European Commission has set up, can also protect the manufacturers from within the EU from competition outside it. As an example could be the case of famous US custom built bikes, The Orange County Choppers. Their effort to penetrate on the European market has fallen mainly because the hard regulations that the EU has set up, and their bikes would not be officially approved for use.

Lisbon treaty and its ratification process play an important role of the future development of European automotive market, influencing most of the segment of car manufacturing. Regulations concerning vehicle safety and pedestrian protection, European standards on exhaust emission laws, and finally the laws issued at the end of 2008 limiting CO₂ emissions from cars all contribute to an increase in the costs for each car and each commercial vehicles, and these costs will continue to rise in future. Even if the law only comes into force in 2012 or later, it would require billions of Euros in investment in new technologies now to reach the limits by the target year. [14]

German political factors

The German politicians has promptly reacted to the current economic situation and prepared a set of regulations to improve the financial flows into and within the segment. The governmental response included following regulations: [13]

- vehicle duty exemption granted for new cars purchases, which are Euro 4 or Euro 5 standard compliant;
- the car-scrapping bonus offers an incentive for potential customers to purchase new vehicle in change for scraping their old car. This stimulus has many supporters and opponents. Many argue (mainly representatives from different industries), why government should support only particular industry and let the other without such a stimulus, and indicate possible misuse of this law. On the other hand as mentioned earlier in the text, the automotive industry represents one fifth of the total national income in Germany, so investing into its supporting strategies is for future valuable;

CO2 based vehicle duty, which is a long term stimulus to purchase fuel-efficient cars.

These regulations successfully helped to support the domestic automotive market, in the face of rapid fall in exports. However there is still a lot of undone work in the segment of commercial vehicles. This segment is also important especially in the way of supporting the logistic processes. Avery unfavourable conditions has set the increase of toll in January 2009 and put transportation segment in very difficult position.

5.3.2. Economic

The recent economic situation had a huge impact on the financial and credit market and thus influenced heavily large number of industries, including the automotive. More detailed description of this impact was mentioned at the beginning of this thesis in chapter 3.2.1.

Even though the EU introduced trends to unify taxation system, this is in long time future not achievable. Because of the different taxation systems, the opportunities of manufacturers for global convergence might be hindered. This divergence might lead to efforts of some companies to move their capital to its subsidiaries, where the tax system is more favourable. [13]

The European monetary zone is spreading, but there are still many countries (not only outside the EU) in Europe, which didn't accept Euro, and car industry is important to them (Czech Republic, GB, Poland). This may lead to exchange rate fluctuation and might influence import and export between countries using Euro and countries using their own currencies.

Interest rates and the credit opportunities of the customers and manufacturers are highly influenced by the current situation on the financial markets. The car manufacturers not depended mainly on their cash flow, but using credit financing have now more difficult position in gaining money for the investment and development strategies. The customer sector, which was in past years driven more and more by credit purchases has also recorded heavy decrease in the willingness of customers to buy on credit, because of the unfavourable conditions of borrowing (as described in previous text chapter 3.2.2).

5.3.3. Socio-cultural

Europe according to cultural diversity is quite homogenous. But considering the perception of car market, the European market seems quite diverse. It must be considered every little aspect of the countries culture and even history. Many countries, such as Germany or France are very proud of their domestic production and majority of their market segment is occupied by home producers. In many cases it is very complicated to convince local customers to buy "foreign" car, even though many of those are built locally and support domestic economy.

On the other hand, manufacturers, especially in Germany, can rely on the loyalty of their customers, who are looking for the "German precision and reliability" even though the Japanese car may be in those aspects even better.

Automotive market has become very complex and customers' negotiation power is more and more increasing as they are aware of the power they hold over the retailers. With the open market within the EU, customer is able to find better offer across the borders, and that why holds leverage against the seller.

Along with development of communication technologies, the customers' sophistication challenges the traditional way of selling cars. The customers are now used to customize their purchased vehicles from their homes over the internet or phone. From this reason many retailers change their distribution and selling strategies, in order to keep with the challenging environment.

5.3.4. Technology and innovation

The primary innovations within the industry at present surround optimum dealership network structures and how to organize in order to compete effectively and achieve maximum economies of scale. Much of this is likely to be achieved through further consolidation, though some companies have already experimented with alternative network structures. Other innovations involve the development of value adding packages and extended warranties to increase the attractiveness of packages and tie customers into networks for longer.

Technology could be identified as one of the main success drivers in automotive industry. Advance in technology can mean a competitive advantage, and large amount of resources are being invest into technology improvement. These factors doesn't include only the technology of car manufacturing but could be linked to technologies

such as IT or telecommunication. Because there are not many fields of car manufacturing technology where it would be easy to gain advantage, many companies have partially turned their focus on the value of information and knowledge management.

Knowledge Management (KM) is the process through which organizations generate value from their intellectual and knowledge based assets. Normally, generating value from such assets involves sharing them among employees, departments and even with other companies in an effort to devise best practices. While KM is often facilitated by IT, technology by itself is not KM and therefore would demand skills in both areas in order to bring additional value. [7]

6. Importance of competitive advantage in turbulent times

When an industry is in downturn phase, the critical factor of success or even survival might be in the differences in profitability inside the industry. To sustain a profitable position in the industry, companies must focus on achieving and maintaining the competitive advantage in markets they operate.

To considerably extent the ability to sustain a competitive advantage is a function of the resources a company is able to deploy and the capabilities it possesses. Among those resources don't belong only the financial and physical, but maybe more importantly intangible assets such as brands, technological expertise, goodwill and exceptionally talented employees. The matter is not only what resources the company possesses, but from strategic point of view how well it is able to manage them. The main task of managing resources effectively leads naturally into the issue of capabilities or competences. These are the things that companies do well and which are related to the key success factors in the industries in which they operate.

In automotive industry the companies that were able to sustain their strong position in their markets as a result of having developed a strong core of resources and capabilities are for example BMW with its competence in high-quality manufacturing or Toyota and its strong innovation and development of new technologies.

The sustainability of a competitive advantage depends in particular on the following major factors: [4]

- *durability*. The ability of a company, through investment, training and continuous learning and improvement, to maintain the quality of its resources and capabilities;
- transferability. The extent to which other companies can acquire a firm's resources or capabilities, for example by 'poaching' key personnel or copying key processes or systems;
- replicability. The ease with which competitors can build comparable resources or capabilities from scratch;
- > appropriability. This is the issue of who receives the returns from the key resources or capabilities.

6.1. The Volkswagen case

The Volkswagen Automotive Group was founded in Germany in 1937 on the concept to build the "people's car". It first contribution to this concept of creating a car for ordinary man, was the first Beetle, which became the company icon over the time. Today the Volkswagen AG is divided into three organizational parts – the Volkswagen Group (VW, Skoda, Bentley and Buggati), the Audi Group, which includes Audi, Seat and Lamborghini, and the commercial vehicle group.

At the beginning of the 21st century the VW went through a turbulent period. In 2004 their net profit fell to one third of its value compare to 2002. The reason was the drop in market outside their strongest segments in Western Europe and South America. The VW group has lost 0.6% of its global market share in the year 2004. Many experts have agreed that VW is in the worst position among the large players on the global scale and its future is in risk. This was underlined by the worst scores in returns on sales and equity, which was far below the average values of its competitors (0.8 respectively 3%). [15] Its competitors were making more "people" cars for more favourable prices. With this in mind, Volkswagen has begun a restructuring process aimed at making the company and its manufacturing capabilities more conducive to change. It also engaged in a cost-cutting campaign in 2005 including lay-offs and reworking of union deals. One of the biggest reorganizing and strategic move of VW was moving back the production of Golf from Brussels' Forest plan to Germany. It cost the employment of 4000 people, which raised big issues among the labour unions. The VW has prepared a reconversion process, but it only covered about third of the former employees.

Despite the bad social impact, the VW has started its reform which led to increase in sale and profit margins in 2008. The positive impact of the decisions made in VW's hard times between 2004 and 2006 can be seen even more in the first half of the year 2009. [15] Time when many companies are facing difficult financial situation the VW AG is able to show stable financial results and is capable of minimizing the lost caused by global economic recession (see appendix 13.2).

This approach has allowed Volkswagen Group to invest in key project which can secure its stability in future. They mainly invested into plants, property and equipment (e.g. the project of Volkswagen America in Chattanooga, where they are building new plant). The ratio of investments in property, plant and equipment to sales revenue

(CAPEX) was 5.6 percent compare to 4.3 percent in 2008. [15] This clearly shows the VW's ambitions to develop strategic plans focused on the development after the downturn is over. However these efforts influence the fiscal results and may have negative impact on the investors' relations in short term period. But from strategic management perspective are those investments very favourable.

The following drawing illustrates the market positioning of VW and other strong brands sold in Europe. The Volkswagen has a clear aim to be once again the car for wide spectrum of people, offering wide range of models, with decent quality standard and luxury level. The marketing strategy aims to enlarge the market share and secure the position among the middle class cars, with efforts to sustain and secure the position of Porsche (VW's new acquisition) in the segment of luxury and sport cars.

sportiness Ferrari Maserati Porsche **BMW** Bentley basic luxury Rollsmodel Royce Daimler Chrysler Renault **Fiat** VW **PSA** Opel Ford suitability for daily use

Figure 2 Market segmentation

Source: VW shareholders report

6.2. SWOT analysis of Volkswagen Group

6.2.1. Strengths

VW is a brand with a long tradition in Europe. Over the long period of time it has developed a strong position on the European market. One of the main strengths is that people are generally considering German cars as reliable cars for everyday use (mainly VW and AUDI). In recent years they are competing with Toyota for the first rank in reliability, but they are still on the top in quality on the European market.

Strengthening the brand position on the global market was gained by adopting strong marketing strategies and investments. The VW was able to increase their global market share in recent year, which shows their good competitive position within the segment of middle class vehicles. [15] By supporting this trend, VW can remain strong during the financial crisis and can prepare good starting point to launch sales during the upswing after the crisis.

As Dr. Martin Winterkorn, Chairman of Volkswagen AG's Board of Management, says: "We are excellently positioned with our multi-brand Group model." [15] Despite the current economic recession the VW AG, thanks to this well designed marketing positioning is able to gain shares in key markets, which supports their improving position on the global scale.

The evergreen models Golf and Beatle offer the company a strong support in times, when the sales of other models might not be at their peak. Every new line of the model Golf is being expected with high expectations, and even though the series V was not as successful as its forerunners, the new Golf VI is expected to achieve high volumes in sales and follow the tradition of this successful model.

Another strength of VW is again coming from a long time development. Their famous TDi engines have become a synonymous to reliable and long life quality engines.

The European's biggest concern, which associates eight well known European automakers, is named after VW (Volkswagen AG). This concern offers a strong financial portfolio, which allows spreading the financial and production risks among wide range of subjects. Another advantage which brings the concern model is the multiple use of manufactured parts within the whole organization (e.g. the chassis developed and made for VW Passat used in other models of VW, Audi and Skoda and

vice-versa). It safes cost on production and allows to develop the supply strategies more in detail.

The long experience of VW's chairman Ferdinand Piëch, could bring and competitive edge in the turbulent times and could stabilized the position and trust among stockholders.

Even though the VW AG is a large and diverse organization, the top management stress the family culture approach, with no leading brand within the concern. With this family approach is closely connected the company's policy that the managers must attend test drives, in order to stay close to the production performance and new technologies development. This leads to a compact top-bottom management with close links between levels.

6.2.2. Weaknesses

Even though VW is known for its high quality, it still trails behind Toyota, Mercedes and Honda.

The top management department is often criticized for its bad image it makes on the public. Ferdinand Piëch is a good financial and strategic manager, but he has a bad relationship with the public and press. This might cause that VW loses its good overall image among the public. The same problem causes Piëch's attitude inside the company, when preferring his family members in important managerial positions. This attitude leads to unsatisfactory among the members of manager staff.

Volkswagen and the German car makers generally, have missed the beginning of the development of the hybrid engines. This is where the Asian car manufacturers and especially Toyota have huge advantage.

VW has a relative high cost of capital.

6.2.3. Opportunities

The market during the crisis offers favourable conditions for sales of middle class vehicles. People seek for quality and good service conditions for reasonable price more often than ever before.

Good aimed marketing propagation of the new Golf VI can bring a stable and long term income to the company during economic downturn. Golf VI profits from its long and

famous history and is aimed to address the middle cost segment of the market, which in time of lack of financing opportunities could be the right choice.

Acquisition with Porsche could bring feature opportunities and profits. As Martin Winterkorn, chairman of the Volkswagen management board, said the move "makes two strong companies even stronger. Volkswagen and Porsche have excellent knowhow at their disposal and can use their resources even more efficiently by combining them." [16] The Porsche brand enables the VW to enter the luxury and sports car segment. In the current situation this acquisition may not seem as the best, because the sales of luxury cars steeply drop, but it is a good strategic step for the future.

The German car market has always been strong, and the customers in Germany have long term preferences for German cars.

The German government incentives to give the industry a positive pulse and to support the sales on domestic market promise long term sustainable state support.

Due to the mortgages' crisis the price of properties is decreasing and this offers an opportunity to build another plant overseas to have better control over the US market.

6.2.4. Threats

The biggest and most concerning threat is obviously the global financial crisis. There is a lack of financial sources on the market and this lead to lower sales and difficult situation on the market.

Increasing competition of Asian car makers, who are able of cheaper and faster production,

A possible threat for VW could also be the Porsche merger. It is manufacturer of sportive and luxury cars, which are nowadays not very profitable segment and it might represent large additional cost for uncertain period of time.

The bargaining power of labour unions on the domestic labour market, doesn't allow VW rapid restructuring in case of need (e.g. cost cutting in time of crisis). It is always a long term negotiation process with the unions, in order to achieve new conditions or contracts.

The fluctuation of exchange rate of Euro can influence the export strategies, and can set boundaries on export, because it can become too costly.

6.3. TOWS matrix possible strategies

6.3.1. Maxi-Maxi – Strengths/Opportunities strategy

VW is a strong and in many aspects sound company, so the best way to build a strategy for economy turbulent times is to develop its strengths using the environmental opportunities. This approach is the less costly and takes the least effort to execute.

Use its strong multibrand positioning to support new marketing strategies for Porsche. This acquisition enlarges the VW's brand portfolio and allows it to enter the sport and luxury segment of the car market. Until now VW had no representative in this area and Porsche means that it can now address and profit from new segment of customers. An optimistic forecast considers this acquisition in the current situation as not one of the most sales efficient, because the sales of luxury cars steeply drop, but it might be a good strategic step for the future, if VW continues with its good brand marketing strategy.

The economic downswing doesn't represent the best time for M&A strategies, but for a stable and quite sound company as VW might be the possibility of enlarging share in the strong Asian (Chinese especially) market a very interesting way of further development. Volkswagen has a good starting position for further development, because it has the longest tradition (since 1978) on the Chinese market from the foreign car and parts manufacturers. VW group now represents approximately 18 percent of the Chinese car market. Operations of Volkswagen in China include the production, sales and services of whole cars, parts and components, engines and transmission systems.

The importance of Chinese market for the VW group illustrates the latest sales figures. For the first time the sales volumes in the first half of 2009 in China have exceeded the sales in the domestic market. Also the annual growth shows more favourable conditions on the Chinese market – in China the VW recorder in the first half of 2008 22,7% increase compare to 18,3% increase on German market. [17]

As mentioned in previous paragraph, and also as many experts agree, the lack of capital on the global financial markets doesn't offer favourable conditions for mergers and acquisitions strategies. Despite this fact, merging with one of the developing Chinese companies could represent a long term successful strategy. Not even it secures higher

market share on very ambitious market but it provides more options for FDI and transfer pricing strategies. [18]

In appendix 13.4 are listed three companies and their short profiles, which would be considerably possible for acquisition. It is the author's opinion that the best opportunities for further development provides the Chery Auto company. It is fairly new on the market, but has achieved quite remarkable successes and has a good technology background. Thanks to its innovative attitude it would be also very beneficial to get access to large technological portfolio of the VW concern.

Using the strong market in Germany for further development of brand position (presenting the main brands once again as the people's cars) in the segment of middle class cars is one of the easiest ways way how to secure a good a and stable revenues, even in unfavourable times. If VW will be able to remain its market shares, it is possible that it comes out from the crisis as one the strongest player on the European market. Securing leading position in Europe can open the door to gain bigger share on the global scale.

6.3.2. Maxi-Mini Strengths/Threats

In order to minimize the biggest threat of the company's external environment, it will be needed a lot of effort and larger time frame. Considering the strengths listed in the SWOT analysis, there are some strong factors, the company will be able to use, in order to minimize the impact of the financial crisis. As mentioned in the general advises in chapter 10.3 to survive the crisis it is good to continue in innovation and R&D activities. VW was always ahead of the technical innovations mainly in the diesel engines development. Its new blue motion engines concept is a good approach in times where the environment protection is moving upwards on the scale of desired features. Other advantage this new engines can offer, and what is very desirable during financial crisis, is higher fuel efficiency.

Another aspect from the strengths of VW, which can help in turbulent times, is the multi-brand portfolio. Thanks to this diversified offer is VW able to address its product to large base of customers and is not dependable on one leading product.

The exchange rate fluctuation risks are possible to reduce by moving or establishing the production capacities or the capital reserves in different areas over the world, such as the plant in North America, or the production capacities within the EU but outside the Euro zone. [19]

6.3.3. Mini-Maxi Weaknesses/Opportunities

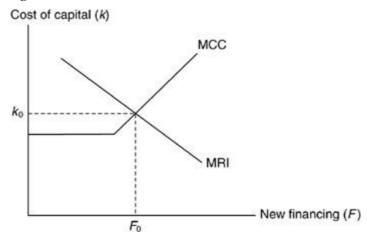
Using the external opportunities to minimize the possible weaknesses of the company in the uncertain time of global recession could play crucial role for the future of any company. However the unstable and hardly predictable situation on the market makes it difficult to make the right decisions and many aspects of the risk management should be kept in mind.

The strategy aiming to lowering cost of capital is among the Mini-Maxi strategies probably the most challenging and demanding.

Because automotive industry is from its nature global industry with many MNC involved, the companies must develop an effective plan to deal with the fluctuation in exchange rates and the rise in costs from suppliers. Especially in markets with different speed of development (or economic downturn) can the difference in net value of the subordinaries` capital play a major role in strategic decision making. This means that VW can use its broad financial based which is spread across the European and global market and take advantage of capital movement within the concern, using the regional condition of gaining and maintaining capital. Such activities are mainly preceded by the strategic foreign direct investments (FDI) and transfer pricing.

Cost of capital and its impact on FDI decisions is influenced by two factors. The marginal cost of capital (MCM) and marginal return on investment (MRI). The marginal cost of capital is defined as the cost of new financing, which remains constant initially, independently on changes in the quantity of new financing. [20] The suppliers of capital will require the higher returns on provided capital, the more funds are required. On the other side the demand is driven by the marginal return on investment, which is the rate of return on new investments. Following Figure 3 shows the MRI curve to be declining. This happens, when the investment projects on the axis are ordered with respect to their returns (from highest return rates to lowest). The equity point is reached in the intersection of MCC and MRI curves. This point is called the equilibrium level of cost of capital. This figure allows valuable analysis of the price of capital reflecting the actual and future situation of the economy.

Figure 3 MCC and MRI curves



Source: [20]

Moosa (2002) gives following examples: "the MCC may shift to the right, implying willingness of creditors to supply more new funds at each level of the cost of capital if it is believed that the economy is heading towards rapid growth and higher profitability. In this case, the cost of capital will drop. On the demand side, the MRI curve could shift to the left if the firm became more risk averse, implying that fewer projects would be accepted at each level of the cost of capital. In this case, the cost of capital would decline."

6.3.4. Mini-Mini Weaknesses/Threats

The strategy focusing on minimizing weaknesses and threats would not differ in many aspects from the previous proposed strategies. It must as well deal with the global financial situation and increasing cost of capital. Along with those external factors influencing the company, the management should also consider reducing the internal weaknesses. The main issues which the top management is able to influence the best, without being limited by the external environment are the structure of the top management and the relations with investors and public. Those two issues were raised just after Mr. Piech was appointed as a chairman of VW concern.

7. M&A strategies

According to Hill 2005 there are several strategies and models of realizing acquisitions on foreign market. Even though VW is quite well established on the Chinese market, there are still some possibilities to be considered, when merging with another company.

7.1. Licensing

Option, which doesn't seem to be acceptable for fulfilling the objectives of the company's enlarging the Chinese market is *licensing*. This solution might help to safe on initial costs of setting up a new business or building plant, but the success of the company is based on the technological know-how of their products. So the risk of losing this advantage is for the company unacceptable.

7.2. Franchising

Similar to licensing, franchising would lead to loosing the technological advantage and their know-how. They could also lose the control over the customer relations management, which plays an important role in the company's ideology and could have a negative impact on the company's image.

7.3. Turnkey project

This strategy model is the least plausible option. It is mainly use for first penetration onto a market, in order to safe initial costs of establishing new business. It is also more suitable for other industries, more oriented on project production, such as construction or civil engineering.

7.4. Joint venture

Using this particular method of acquisitions is mainly used in cases where one company of the venture (the one that is foreign in the country) needs to gain the knowledge of the local market and the domestic company is seeking for foreign capital, which would help it in further development and investment.

In the specific case of VW doesn't this solution offer the best options for the company's needs. With joint venture strategy, VW could not sufficiently control the technological processes and business strategies of the venture. The success of Volkswagen is based on long tradition and technology development, which could be put in jeopardy when

the joint venture agreement wouldn't be set correctly. Also the chosen contractor – Chery – would not probably agree with such an acquisition. Their core development is based on using the technology of their current partners and use their own know how of production and sales to secure stable position on the market.

7.5. Wholly owned subsidiary

VW would be in the case of merger looking for a long term strategic solution, which prioritize the option of wholly owned subsidiary. This method has clear advantages for VW, because it allows the company to tightly control the strategic behaviour of the subsidiary and doesn't mean any threats of losing the competitive advantage based on technological competence.

With this acquisition Volkswagen could gain the whole assets portfolio, and could deploy it strategic management more easily, then when using other methods mentioned in previous paragraphs. Recently they could also through this acquisition be part of newly formed alliance of 10 Chinese automakers, which joined to share knowledge and R&D in developing the electric vehicles.

On the other hand, the Chery company might not be willing to give up its independency. They have quite rapidly developed a good position on the market, though with niche sales figures. But when looking on the company's profile more closely, they have gone through very unstable development, when once saved by the government order of taxi vehicles. Based on this experience, the VW group could offer it large and stable background of multinational company, which can secure Chery more consistent further development.

7.6. Strategic alliance

Such a strategic move is mainly used to gain a majority of the given market share. It would be a very attractive opportunity, to gain a majority share on the Chinese market, but also in current situation impossible. Chinese market with its size and diversity doesn't offer the possibility to gain such a strategic position within one merger. Further tendencies in this direction could lead to inadequate spending and increasing costs, which in final effect wouldn't have to bring desired results.

Another way, how to profitably use the strategic alliance in this situation would be an acquisition in order to enter the partnership of the T10 Electric Vehicles. In the case

of strategic alliance, VW doesn't have to be limited only on acquiring of Chery, but with good alliance strategies, it may address its efforts to bigger players on the market, offering capital support exchanged for technology know how. If this strategy was successful, VW can enter the electric vehicles market with minimal initial costs on own R&D.

7.7. Chinese market characteristics

China remains one of the fastest growing economies in the world. But considering Chinese standards, the country is currently in a very mild period of progress. Economic growth for 2009 is expected to be in the around 7 percent with the preponderance of expansion coming from government and business investment. Exports, long the engine of China's economy, were down 26 percent in May from the prior year and are likely to remain very weak throughout the year. On the other hand, China's Purchasing Managers Index (PMI) has risen for the past several months and is now above the critical 50 percent level. This indicates that, based on an index of orders, inventories, and production, an expansion of the industrial economy is now taking place. [5]

Strong governmental stimulus gives China a positive long term outlook. However there is a risk containing strategy of Chinese government - accumulation of vast quantities of U.S. dollar denominated assets. The concern is that large U.S. government borrowing will eventually dilute the value of these assets (either through currency depreciation and/or much higher long-term interest rates) leading to sizable capital losses for China's central banks.

Despite the concern mentioned above, China remains very attractive location of FDI and gaining larger market share in any industry sector can indicate important success factor for any company.

8. Marketing strategy

Many experts argue that marketing is the best place, were the cost reductions are the most favourable and least painful. They claim that marketing cuts don't have effect on production and products quality. The most common mistakes of those, who disagree with investing into designing marketing strategy, is that they perceive marketing as, and only as advertising. This is not a valid approach to the problematic; advertising is focused externally and attempts to set up a dialog with customers and prospects. Marketing is focused internally and attempts to set up a dialog with top management in order to develop a product or a service "with a story." Peter Drucker, a leading marketing expert argues that: "Because the purpose of business is to create a customer, the business enterprise has two -- and only two -- basic functions: marketing and innovation. [21] Marketing and innovation produce results; all the rest are costs". This statement clearly shows how the marketing experts see the importance of marketing department within an organization and its involvement in the planning and strategy developing process.

Al Ries, chairman of Ries & Ries marketing consulting company explains the importance of a marketing strategy, when digging an organization from crisis on the example of appointing Bob Lutz as a new GM marketing chief manager. He claims that appointing someone with so little experience from leading marketing position, can be crucial not only during the difficult situation on the market, but can negatively influence the long term sales performance of the whole corporation. Because marketing according to his words represents "coordinating all the various disciplines inside a corporation in order to develop the right product, the right price, the right position, the right distribution strategy and the right brand name", remains its value for the organization in the strategic planning very high. Here lies the problem of GM – so far GM builds cars that the people in US don't want to buy. They buy BMW, Toyota, Honda, Mercedes, because they want to buy brand with their vehicle. [21] And that is what GM doesn't have, and were new marketing strategies must be developed, strategies that would change the approach to the production of new vehicles. They have to adjust their production so that the right brand addresses the right customer group. This could be achieved by correct marketing positioning. At the moment none of the GM brands has its position on the market on which they could build on and which they could strengthen. In other words the GM brands stand among customers for nothing. For example, the Buick brand, which is along with Jaguar rated as the most dependable car (according to J.D. Power's 2009 vehicle dependability study), has the average age of its buyers 63.

When compare the GM brand with the VW group marketing, there are some similarities, but major differences. Both marketing strategies consider large portfolio of products, the difference is in the approach of developing a brand. As mentioned previously, VW has always stud for a people car. When acquiring new partner into the group, VW has always paid attention, it is buying a brand with strong story, not just another product line, which just extends their portfolio. On the other hand GM doesn't pay much attention to the brands with the right story. Many experts argue that the brand GM stands for nothing, referring to for example Chevrolet, which sell everything from \$13,000 Aveo subcompact to the \$25,000 Impala full-size sedan to the \$40,000 Suburban sport-utility vehicle to the \$105,000 Corvette ZR1 sports car and it also offers full production line of pickup trucks. [21] It is good to have a diversified portfolio in the offer, but still, the brand must represent an image and develop a positive perception among the customers.

Table 4 US Customers' satisfaction index

Manufacturer\Year	00	01	02	03	04	05	06	07	08	09
Cadillac (GM)	86	88	86	87	83	86	84	86	85	89
Lexus (Toyota)	NM	NM	NM	NM	NM	NM	86	87	87	89
Buick (GM)	86	86	86	84	83	84	86	86	85	88
Honda	82	83	82	82	85	86	86	84	86	88
Lincoln Mercury (Ford)	85	82	84	81	86	83	83	86	83	88
BMW	84	86	86	85	84	86	85	86	87	87
Mercedes-Benz (Daimler)	87	86	83	83	80	80	82	83	82	86
Toyota (Toyota)	82	83	83	85	84	87	87	84	86	86
Volkswagen	83	81	82	76	80	78	78	80	81	86

The table gives the American brands at least some confidence to the future. Cadillac has always stud for GM's higher class brand, and it sustained in this position also over the turbulent times. The chart represents American Customer Satisfaction Index of domestic and imported vehicles in the period of 2000-2009. [22] The Cadillac has

equal its brand opponent Lexus which is an equivalent for Toyota's higher class brand. This satisfaction index must give the marketing managers the courage to invest into brand development and make an effort to sustain its position in the market segment, they decided to operate within.

9. Application of the Blue ocean strategy tool

9.1. Value curve

As described in the theoretical part of the paper, the value curve serves to better understand the trends and values in given product attributes and helps to discover the blue oceans in given industry. The author has chosen the price of the car, its fuel consumption efficiency, design attractiveness, the usability of the car, safety provided by the car, how attractive and famous the brand is, overall quality and services provided by the manufacturer as the evaluation criteria. Each from this criteria vas rated from zero to 10 points, according to its actual level (e.g. zero by price means very cheap, ten most expensive, by safety represents zero very low level of safety and ten highest possible level of safety).

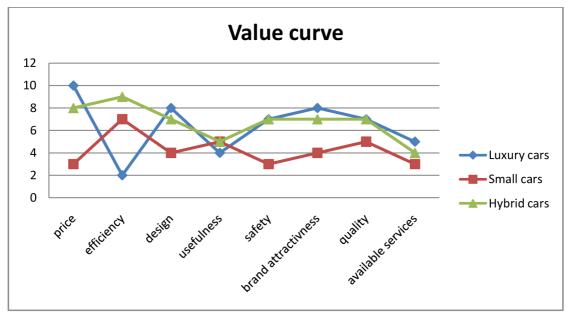


Figure 4 Value curve of the vehicle segment

Source: Author's own design

In this chart are for better orientation, listed only three product lines from the wide product spectrum that the automotive industry contains. But also other types of product were analysed, such as trucks, middle class vehicles, electric cars, commercial vehicles (generally) and sports cars. The aim was to identify some trends or similarities in the particulars value curves. Because the portfolio of products is nowadays much diversified, it is hard to find any new shapes of the curve. However there could be a possibility of blue ocean creation, by developing the services provided into new

directions. Services seem to be the only way that would allow manufacturers to find a blue oceans in automotive industry, because in other fields exists many players on the market and there is very little space for innovation, which would bring the desired advantage. For example large investments into technology innovations are in the industry necessity and don't represent main trends in developing new segment of the market. For example the alternative fuels could provide blue ocean environment, if they came about twenty years ago. But today with high developed research and development and increased investments into innovation, bring those technologies only short term competitive advantage. Many of them (e.g. compressed natural gas) require more than just an innovation from the manufacturer. A new distribution channel of the gas would be necessary, so people get the comfort of filling their tanks on every petrol station, which is very cost demanding and time consuming.

That is why the author argues, that developing new dimension of pre and post sale services, is in today's situation one of the few ways, how to enter the waters of low competing environment of blue ocean. In chapter 3.2.2 was described how the turbulent situation on the global market changes the perception of the customers. In order to weather this storm, manufacturers could develop strategy that would entirely focus on the customers' needs and wishes not directly linked to the cars design or performance. Rather on the way how to address those attributes to the customer, how to effectively communicate whit him, how to offer the products and services he wants, in the most effective way.

An example of such efforts how to effectively communicate with the customers could be developing an profile of customer types, which would record typical features and wishes of different segments of customers according to different segment of cars. The owners of sport cars would rather prefer fast notification about any kind of new technology innovation, which could increase the performance of their car or the manufacturer could develop a service with its dealers, which would ensure fast and wide delivery of high quality service parts needed for flawless performance of their cars. On the other hand, owners of luxury sedans would rather prefer fast services in a case of brake down and the possibility to use another luxury car instead, from local dealer, no matter where they are geographically located. For owners of cars in the mid-class segment could be developed a global loyalty program, which would allow them

for example when being on holiday and hiring a car only for vacation purposes, they could be offered a discount on the hire, when lending a car of the same brand as they use at home.

The possibilities of developing a blue ocean in the pre- and after-sales services are very broad, but need long term strategic planning and careful investments, which would exceed the range of this thesis.

10. Challenges and responses to the downturn

The following text describes areas on which the companies in downturn should focus when considering a strategy for survival. When a company can master most of the issues described below, their strategy could develop not only to survival but also to winning.

10.1. Focus on cash and liquidity

Due to credit crisis, credit is becoming more and more expensive and scarce. For these reasons is the key challenge to keep high cash flow and liquidity to meet short and medium working capital and production requirements.

In order to accumulate high level of cash, the company should focus its short term strategic efforts to liquidate underutilized assets, repatriate earnings from abroad, manage cash on weekly basis and focus on mission critical investments and rapid payback projects.

Other activities of liquidity strategies should focus on optimizing working capital. General advices are summarized as follows: [23]

- leverage bargaining power to extend payables and contract receivables;
- rationalize underperforming products and unprofitable customers;
- drive process efficiencies: Order to Delivery, Invoice to Cash, Procure to Pay;
- > draw down revolving loans;
- decrease order cycle time;
- manage the structural costs.

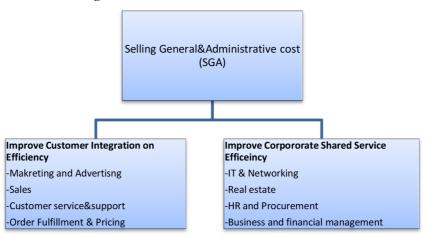
The main problem in the downturn period is that short time cost cutting and turnaround improvement plans don't pace with the decrease in sales. Input costs such as fuel, components material, steel etc. has high volatility which makes it is difficult to optimize them.

Strategies such as hiring freezes, reduced travel and across-the-board budget cuts usually deliver only incremental results, and are rarely sufficient to protect companies through uncertain times that follow. [10] Better way is to develop strategy of managing cost through-out the whole cost structure. When a company wants to keep its quality and production standards, it is hard to cut the cost in production areas. That is why most cost cutting strategies focus on SG&A cost (Selling, General& Administrative costs).

Cost cutting in this area offers large portfolio of possibilities how to save costs and doesn't have such a big impact on the production outcomes of the organization.

Following chart illustrates the structure of the SGA costs. According to previous findings in this thesis, customers and service and support is seen as an important future success factors, it is not recommended to rapidly cut costs in this area. Marketing and brand building is another area, where many business leaders and industry experts see the cutting edge of future success. This leaves the SGA cost cutting strategy with an option of reducing the cost on the side of corporate shared services efficiency. The core idea of cost cutting across SGA is the possibility to spread the burden of elimination of financial flow equally across the whole segment.

Figure 5 Structure of the Selling General and Administrative costs



Source: [6]

IT department has nowadays big impact on company performance and thus the management must be very careful with decision about reducing cost in this field. However there are few ways how to effectively manage IT costs, such as software licences audit, using open source products, build IT innovations on exiting technologies or using outsourced services for specific tasks.

The activities in real estate offer, especially in time of lack of financial sources, an interesting method of reducing costs. Organization can use a special contract offers on the market of real estates, because the demand is lower and thus the customers (the companies) have higher negotiating power. Delayed payments for properties contracts could increase the value of Cash Flow, but could negatively influence the relations with the contract parties and could cause future arguments.

Costs of HR are on top of many management debates. Many argue that the cost of HR are avoidable and cuts wouldn't have major strategic impacts. The opponents claim that powerful HR efforts are necessary despite the difficult economy environment. They say good talent management is a key for times of surviving the turbulent times. The author agrees with good structured and planned talent management, which can be ran even with tight budget or done by outsourcing.

Business and financial management don't often have a clear cost structure and that's why managing expenses in those field are quite complicated. However, using financial or business processes audit can reveal many unnecessary financial flows, which could be eliminated. Especially simplifying complex hierarchical structure throughout the management, which often has high level of bureaucracy and making the management structure more flat with easier ways of communication and task delegation brings significant financial savings.

10.2. Managing structural costs

In order to optimize cost structure, the company should focus on sustainable improvements, such as streamlining infrastructure, adjusting service delivery models and redesigning business model. This helps to make the costs more transparent and brings other important benefits such as: protection of margins, capitalization on opportunities, capturing market share and securing new competitive advantage.

10.3. Mergers and acquisitions

If a company decides to take actions, which lead to a merger or acquisition, it must always consider that it will bring higher demand on management such as managing cross-geographical activities involving many people/constituencies; achieving seamless multi-functional integration; managing higher risks; and capturing merger synergies.

When considering an acquisition in automotive industry, the number one factor influencing success of the merger is acquiring for the right reason. The history of automotive industry has proven, that in many cases the mergers were proceed only to increase volume and absolute numbers (the best – nowadays worst – example of doing so was the concern General Motors). The best acquires are those, which support strategic goals by buying specific products or technologies, or gaining new production capacities on low costs areas, where the company has none so far. Buying

strategically supposes that an organization have a strategy developed for M&A. Corporate development departments have to manage the various constituencies and individual agendas that may exist within their companies to develop a strategy and, keep the execution of that strategy on track. [23]

10.4. Re-evaluation of market

The economical downturn has played its role in market and vehicle demand structure. The consumers taste has shifted, the life cycle of product has shortened. The credit instability has negatively impact the producers and dealers financing, and thus they had to reorganize their selling portfolio. The actual trend in the market structure is the shift from regional to global platform.

Not just the turbulent economic environment is influencing the long term perspective of customers. The trends nowadays are to buy efficient vehicles, which are more environment friendly, cars that offer higher safety and utilization, cars that are easy and cheap to maintain. This changing demand must be quickly considered and the production strategies of the major manufacturers must adapt its pricing and selling strategies as well as redesign their product portfolio. According to this situation the car producers are facing many new challenges, which they have to put up with, if they want to weather this storm of turbulent economy. These are some basic rules, which need to be followed when facing the challenges: [6]

- continuously assess competitive product/value positions in regional markets and practice content-driven product life cycle management;
- invest in building attractive brands that are aligned with product offerings;
- increase focus on service offerings along a spectrum in relationship to product offerings;
- > emphasize growth in geographies that offer counter cyclical demand (or currency fluctuations);
- Develop acquisition strategies to take advantage of favourable multi-brand.

 The characteristics of automotive industry provide a specific pricing strategy branch service parts and service parts lifecycle pricing¹. Lifecycle strategy cannot be broad,

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¹ Lifecycle pricing – specific method of pricing good, when price is based on the position of good in the lifecycle

for hundreds of thousands of parts, but will have to be designed uniquely for each product line. In order to correctly develop a service part pricing strategy, the company management must considered many aspects of this specific area of decision making. The main challenges in decisions about the right pricing strategy for example include – determining how to focus on large base of parts and determine if lifecycle pricing is needed on all parts, defining and capturing the triggers for these various lifecycle events or assessing processes and systems to track parts as they move through different stages in their lifecycle. When trying to face the above mentioned challenges, managers often break up the decision about pricing model and the step by step approach brings following opportunities for further improvement: [6]

- analysis help to identify and address non-profitable products, services, customers and transactions;
- on-invoice" and "off-invoice" margin leakages can be restructured;
- segmentation attributes considering value, volumes and margins, identify and segment product-customer combinations;
- identifies the impact of pricing across the various channels to market (dealers, wholesale, jobber, retail);
- shows a way, hot to achieve the appropriate balance between field autonomy and centralized support/control for pricing.

Following graphic illustrates the impact of the pricing on the operating profit, compare to other aspect of the operating profit. One percent of change in pricing has double the effect on the operating profit, then one percent of change in variable costs. Based on the experience of Deloitte expertise, the initial benefits to price management are huge: approximately 200% to 350% ROI in the first 12 months and 2% to 7% margin increase.

Price 12,3%

Variable Cost 6,7%

Unit Volume 3,6%

Fixed Cost 2,6%

Figure 6 Impact of pricing on opearating profit

Source: Compustat, Deloitte Analysis

10.5. Focus on innovation

An important aspect of a strategy in times of growth and also economic downturns is developing and managing products to improve overall performance of the organization. Companies must stay focused on innovation in order to sustain competitiveness. However, many companies lack the strategy, processes, and tools to improve the overall product development process to address these challenges. Not well unified business strategies and processes, poor design collaboration infrastructures, the inability to quickly translate customer needs into product features, and the lack of standards across the supply chain, all can hinder the product development cycle. The usual results are product failures, late product launches, slow new product introduction, and low returns on R&D investments. Therefore, to provide the right products and services to the customers, companies must commit themselves to strengthening both their strategic and operational product development capabilities.

Following table shows the relation between sustainability and innovation. The basic idea in the turbulent time is to gain sustainability on the market using innovation.

Table 5 Sustainability through innovation

• 0						
Sustainability challenges	Innovation as a way to sustainability					
In light of rising fuel prices, it can be	Research into alternative fuel models and					
seen changing consumer sentiment	environmentally-friendly technologies has					
towards fuel-efficient and	stepped up the level of innovation within the					
environmentally friendly vehicles.	automotive industry					
Research and development (R&D)	Consumer demand for more safety features,					
effort is increasingly being done in	advance technology/electronics and other					
partnership or joint ventures with	new features in vehicles will continue to					
others.	make innovation a strategic focus for					
Regulatory mandates in the US and	automotive companies.					
EU has improved fuel efficiency and	Luxury segment grows with aging					
emissions standards. For example, in	population. Baby boomers, now in their peak					
the U.S. there are tighter emission	earning years, are expected to seek out luxury					
standards for cars with the new CAFÉ	(and near-luxury) vehicles.					
law calling for a 35-mpg fuel economy	Product proliferation - with new products					

standard by 2020 starting with the being introduced more frequently – will

2011 model year. This has led to the growing popularity of hybrid electric vehicles and increased investment by OEMs in other alternative fuel models and environmentally-friendly technologies in hopes of gaining a competitive advantage.

challenge automotive companies to more effectively manage their product portfolio.

Source: [6]

10.6. Managing human capital

To effectively handle the human resources in the period of economical downturn the companies must mostly face following challenges:

- reducing workforce in order to cut operating costs;
- effectively managing operating costs associated with a workforce that is deployed globally;
- driving talent in a downward economy;
- dealing with the rise in healthcare costs;
- > sustaining and maintaining retirement benefits while managing costs.

A quick but drastic method how positively influence the cash flow is a rapid headcount decrease. Even though this may seem as a fast and effective way how to free cash resources, it can have negative impact in the future such as: additional cost when recruiting new employees after the downturn period is over, losing good image among the public, keeping the rest of employees in permanent fear of losing their jobs. Instead of firing people the company should consider redeployment of employees in areas of the business that are identified as the future growth opportunities in the organization. Especially in automotive industry is the brand image very important and companies should start to communicate with their employees to find an effective way of human resources strategies. Good way how to start is to evaluate the employees a pension plan and retirement contributions in the bad economic climate or develop a plan to deal with the continuous rise in heath care cost. If the employer has the trust from its employees he can introduce a plan where employees will be more involved in it, and it would reduce the operative costs.

10.7. Strong dealership performance

Even with a well developed strategy with focus on product, pricing, volume, marketing could an organization face, especially in automotive industry, large difficulties without a strong distribution network. Strong distribution networks and well designed partnerships with wholesalers and dealers can play, in times of very tense technological competitive environment, important role in company's future success.

Critical successes factors in building and maintain a vibrant dealer network includes: [24]

- establishing a clear market representation plan;
- developing a consistent corporate identity;
- > executing robust evaluation procedures for appointing, monitoring and removing dealers;
- implementing a business management program;
- investing in regular training and development.

10.8. Managing risk

Briefly expressed, the scope of every risk management activity is to create a risk prepare and risk intelligent organization.

According to risk management theories, when planning during crisis period, the management should focus on creating early warning systems and contingency planning capabilities, the alignment between strategic and operational planning should be tightened and Common information, processes, controls, and systems must be leveraged to simultaneously improve the effectiveness of decisions.

A company should always look beyond probability when planning and prioritizing risk management investments. Three factors that a organization may find very useful, when considering and evaluating risk management decisions are the *impact* of a risk event on the business value, the organization's *vulnerability* to its effects, and the risk event's *speed of onset*. Impact and vulnerability can represent a evaluation criteria of how the actual risk, the company is facing matches with the risk management efforts, the company is considering. For example high-impact risks to which the organization is highly vulnerable may indicate an increase in investment in such risk efforts, while low-impact, low-vulnerability risks could indicate a re-evaluation of recourses allocation.

The core principles of risk intelligent that an organization should follow in time of economy turbulence could be identified as follows:

- risk framework, which would be supported by appropriate standards to be followed;
- common risk management infrastructure should be used to support the business units and functions in the performance of their risk responsibilities;
- particular business units are responsible for managing the risks associated with their business activities according to the risk framework set by executive management;
- certain functions (e.g., internal audit, risk management, compliance, etc.) should provide objective assurance as well as monitor and report on the effectiveness of an organization's risk program to governing bodies and executive management.

11. Conclusion

One thing is clear. Despite all the negative analyses and predictions: There will also come a time after the crisis when the aim of the European and global auto industry must be to rise up with new vigour from this extraordinarily difficult period. There are signs that a technological turning point is occurring concurrently to the worst recession since the start of car making. In many instances, there is talk of a paradigm change in the automotive industry, which represents a challenge and an opportunity at the same time. In order to tackle the long-term challenge of this paradigm change and also keep pace with present global competition, a measure of joint effort is required, both from companies and from politics. In the short term the financial markets and the real economy must be stabilised. All political measures must be brought to bear on the recession. However, sustainable impulses must also be exerted toward a long-term path of growth. This is the only way to guarantee sustainable and long-term pioneering role for the automobile industry.

11.1. Possible outcomes of the crisis

After the turbulent times are over, the situation on the market will be undoubtedly different then it use to be. There are few different approaches to the future of the automotive world. The author has taken into consideration the results of the industry experts from consulting company Deloitte and tried, with own insight of the problematic, to formulate four possible scenarios of the market in the future. The models are based on forecast and market analysis, and adjusted to situations and analysis described in this thesis. They surely don't contain all possibilities, and has mainly focused on the problematic from the global scope. They serve as an outlook onto the possible trends in innovation and probable relations among the suppliers and manufacturers.

11.1.1. New players take over

The dominant position of automakers and automotive suppliers will be threatened in the future by new market participants from outside the industry. Future alternative drives will enable new market players to disrupt established competitive structures and alter existing power schemes.

The current situation on the market is not favourable not only for the automotive industry, but also for many others sectors. This may lead to situation, when companies from for example the aviation industry will seek for investments in other areas of transport, to control higher market share of the transportation market. Many airlines are getting into trouble and the manufacturers of aircrafts are recording loses, spreading their portfolio into segment, which is still the most attractive mean of transport (see appendix 13.3) can be a part of their long term survival strategy. These companies also manage large resources and to adjust their production lines to automotive demand would not be that difficult for them. Also the supply chain will enter new era. With the arrival of new supply chain strategies, brought from the aircraft manufacturing, the segment of manufacturing car parts will face new internal challenge. The manufacturers from outside the industry will be able to develop their supply chain "on demand", because they will meet high supply offer, which will be influenced by the crisis. According to this fact, they will be able to focus on market segment, which will prove the most profitability and switch among their products with higher flexibility then their competitors, who still follow old and not flexible supply strategies.

11.1.2. Innovation leaders will play prim

Rising customer expectations of new technology are putting pressure on manufacturers to keep coming up with affordable innovations. Convergence models offer a platform for innovation management as well as cost advantages. Manufacturers are forced to continue offering customers new product innovations without significantly hiking prices. Cooperation with technology providers from other industries is desperately needed to successfully generate and transfer innovations and shorten their cycles.

Especially companies with long tradition in technological innovation will gain competitive advantage over its competitors (the Japanese Toyota and Honda, the European VW), because they will be able adjust to new trends more quickly and less costly, using their existing resources. Manufacturers, who will have to invest into innovation from scrap, will face higher expenses and thus, they will not be able to gain the competitive edge.

An interesting role in the times after crisis and the innovation battle will play the newcomers on the market, especially from Asia. The Asian (and especially Chinese) market is filled with minor producers, with strong technological background and especially with an easy access to technological resources. Their role on the global market will probably not raise rapidly, but they will represent very attractive possibility for mergers and acquisitions from the major global players. The companies from the North America might be very interested to invest into those companies, because it will be cheap and straight forward way, how to access the possibilities, the Chinese market offers.

11.1.3. Major trend are merges and convergence

The mounting scarcity of resources and enduring climate discussion urgently necessitate interdisciplinary approaches. Automakers have to enter convergence relationships today in order to have solutions for tomorrow. Those who fail to address growing resource limitations and the ongoing climate debate with a new understanding of innovation will be weeded out of the market.

Technology innovations in the future may come up to a point, when they will no longer be able to bring any kind of competitive advantage, because they will be widely accessible and will not represent scarce resources. The future competitive battle may take place on the field of raw material resources, which can due to the environment activities, supported by the global recession, become even more scarce than today.

11.1.4. Recovery is a long term and costly run

The automobile sector's advanced degree of maturity has a decisive influence on the future alignment of manufacturers and suppliers. In this context, convergence represents the key to innovative and profitable business models.

Public demands regarding safety, comfort and economy as well as government regulation force automakers to take new approaches. In the automobile industry, where the potential for optimization and enhancing efficiency has been largely exhausted, groundbreaking innovations are only possible in the long term through new forms of cooperation. These new form of cooperation and convergence include not only cooperation during the production process, but during all manufacturing phases, from raw material mining, to supply, storage, production, selling, and after sale services.

This whole convergence process will be just a logical response to the changing customer demand as mentioned in chapter 3.2.2. It can lead to a market, driven by short

term demand of large scales of customers, on which the manufacturers will be able to react promptly, thanks to a good developed convergence strategy. Because close collaboration and cooperation is a long term process, which is hard to duplicate, this may develop into major success factor and key aspect in gaining competitive advantage in the future.

11.2. Value curve results

Chapter 9 has focused its analysis on the possibility of developing a blue ocean environment. Blue oceans are from the theory defined as an environment where the competitive rivalry is none or at a minimum level. In order to develop such environment the market players have to find an area of focus, which would lead to a entirely new approach, service or product. The theory also describes a tool, how to effectively analyse the market environment and which also show the possible direction when achieving to develop a blue ocean environment. For these purposes serve so called *value curve*, which has been drew and analyzed in chapter 9.1.

The automotive industry has several characteristic, among which belong also the strong influence of technology innovation. But with increasing level of technological development, it is becoming a necessity of surviving on the market more than an aspect of competitive advantage. This trend also corresponds with the results of the value curve.

According to these findings, the author argues that current situation within the automotive environment provide low chance of developing a blue ocean based on technological innovation – also the core technical knowledge of the author hinder the possibility to closely examine this option. On the other hand, the value curve uncovers the possibility to extend the area of pre- and after-sale services provided. Currently the manufacturers provide separate services from the wholesalers and dealers, which in some situation leads to unnecessary hierarchical structure of sales, is more costly and doesn't reflect the actual needs of the given segment of customers. The manufacturers can for example create highly sophisticated CRM system, linked with the production and sales databases and built a strong knowledge network, which can further serve to the customer, producers and dealers to fit the actual products and services to current needs of customers. This idea of developing such a large scale network of differently linked systems and the process of getting the right and useful

knowledge is very complex and would involve long term investments and structural changes. The author is only trying to show a direction, in which can be focused research and investment strategies, in order to create a blue ocean environment.

From the nature of this blue ocean strategy, its complexity, broad scope and focus and long term time range, it provides the manufacturers, who succeed in its implementation, sustainable advantage in an environment, where the rivalry will not be on a cut throat level, but rather on a partnership level. This environment will also be very favourable for the customers, who will be provided with entirely new, fast and exact services.

11.3. Marketing focus

In a time of downturn, many companies are seeking for areas of cost savings. The core principals of cost cutting across the organization, with leaving the productivity or quality of products of the company without effect were described in chapter 10.2.

Except the cost reduction in these areas, large numbers of organization accept steps, which reduce investments into marketing. The adverse situation on the global markets do involve cuttings in almost all areas of the organization's cost structure. But especially marketing investment reduction should be considered very carefully and each impact of these decisions should be analysed from the long term impact on the performance of an organization.

Marketing is an inter-organizational function, which is responsible for coordinating all the various disciplines inside the company, such as developing the right product, selling it for the right price, developing the right position on the market, choosing the right distribution strategy and securing the right image of the brand. These aspects make the marketing strategy crucial for the future of any company.

In the automotive represents the brand name and well developed marketing one of the survival factors for an organization. As the results in chapter 8 show, developing a positive brand image directly influences the performance of company and vice versa. An example of successful marketing, represent the brand Harley Davidson. They have developed such a strong brand with sustainable position on the market, so they are able to base the weathering the economic storm mainly on well developed marketing strategy. They don't need to invest into technology innovation, because their brand is based on tradition and any kind of innovation could even have a negative effect for the brand image. [24]

From above mentioned reasons should mainly manufacturers with no or low brand image work on the improvement sooner than the crisis is over. Lot of marketing managers, who were appointed from different area of the business (e.g. Mr. Lutz in GM), cannot identify the basic needs, their company in means of marketing needs. They want to heavily invest into advertising, which they confuse with marketing. They want to communicate with the public, let them know about their brand, but the problem is they need to develop the brand first (example of GM's Chrysler). The study of University of Michigan demonstrates, that the brands, which are representatives of their segments (Cadillac, Lexus high class luxury vehicles, Toyota, Honda, VW as representative for high reliable vehicles) are ranked on top of the satisfaction chart. From the marketing strategy analysis and its impact on the performance of a company emerge that an organization has to start with reworking its internal practices, such as internal communication, company's culture, inter-organizational pricing (which influence the final price of a product or service) etc., in order to start building good marketing strategies and thus designing strong brand.

11.4. Porter's five forces analysis outcomes

Analysing Porter's factors influencing the environment of automotive industry showed some characteristics of this industry and allowed to propose possible survival strategies. Even though the general threat of substitutes in transportation is fairly mild, there are several other means of transport, which can compete with the automobiles. Every mean of transportation has its own specifics and characteristic, which makes it quite unique and the rivalry among them is quite small. However the current economic downturn give the advantage to the cheaper means of transport, such us public transport, buses over the more expensive but more comfortable and individuality offering cars or planes. Car manufacturers need to take into consideration short term strategies, which would allow them to compete with the cheaper means of transport. Such strategies can include aggressive promotion of special short term offers, cheaper services, extra bonuses and special features on new vehicles. This is not a long term sustainable situation, but it can bring the manufacturers with low or no profit at least a decent level of turnover. This from the point of view of supplies, cash flow and distribution channels is undoubtedly better than keeping the prices high with vision of high margins.

Because there is very high demand on capital, when entering the automotive industry with the green field approach, the threat of new entrance is fairly low. The current situation, when on the global market operate and is controlled by just a few major players, it does not represent any favourable conditions for newcomers. Taking into account this trend, the developing countries, mainly in Asia, are base for new, small manufacturers, who are entering their local domestic market and are investing heavily into technological innovations. Even though their chances to succeed on the global scale are negligible, they can be very attractive subjects for acquisitions from the well established global corporations. A particular example is given on the case of VW group and the M&A strategy case study, when acquiring the Chery Auto.

Another specific of automotive industry is that in majority of cases is in the supplier-buyer contract the supplier dependent mainly on one are two buyers. This is given from the specific needs of particular buyers and switching from one production to another is very complicated in this industry. However, the relation between suppliers and buyers is not as one sided as it might seem. It is also favourable for the buyers (in this case the manufacturers), because it allows them to negotiate with the long term suppliers better conditions of contract. A closer collaboration with its suppliers can bring the manufacturers also other advantages then just negotiating contract conditions and thus for example developing on time delivery, which can drastically reduce the cost of storage. It helps to improve the turnover on assets and helps to optimize the production process. The global economy recession may represent favourable conditions for developing such alliances, which would help to adjust the supply chain process. Ford has gone this way when purchasing one of its parts producer and supplier Visteon. They aim to optimize the delivery and parts production process, using internal directives and contract conditions.

11.5. Volkswagen AG case study

In this thesis, the author has analysed the situation of the largest European car manufacturer VW AG. The corporation consists of three major groups – the VW Group, the Audi Group and the VW Commercial Vehicles Group. This paper closely examines the VW Group, by analysing it using the general indicators, SWOT analysis, TOWS matrix and based on this analysis it then propose strategies, how to weather the economic storm and be prepared for the future development after the crisis is over.

Despite the global financial recession that is negatively influencing all of the players in the automotive segment. The VW Group is able to sustain quite sound. However their profit decreases during the first half of 2009, but they are still able to remain in green numbers and further develop their activities on domestic and foreign markets. One of the biggest actions taken to secure larger market share in the future is the acquisition of the Porsche. This is a very important step of entering the sports car segment. Even though the VW AG already contains a sports car brand – the Audi Group owns the Lamborghini – still both of these brands have in majority cases different segment of customers. So in overall impact it should not create a negative competitive rivalry inside the corporation. In current situation, it is hard to predict how exactly it will influence the future development of the group, but it is the author's opinion that it was a good strategic move to enter the sports car segment of the market.

Another major strategic move, this paper proposes is the merger of one of the developing car manufacturer on the Chinese market. Namely it is the Chery Auto, which represents a well established, but minor player on the Chinese market and it would allow the VW to gain resources and new innovations from the new formed alliance T10 Electric Vehicles, which joins cars manufacturers, who agreed to cooperate on development of green, electric powered vehicles.

This would not be the only advantage, the VW Group would gain. They already have established good position on the Chinese market. Even though they are not a major players on the market, their profits on this market are increasing from year to year and undertaking this acquisition, they may enlarge their market share, which will help them go through current turbulent times and secure good position for the upswing after the crisis is over.

The author claims that the best way how to acquire the Chery Auto company is to implement the wholly owned subsidiary method of M&A strategies. The main problem in this strategy is to find the right contract conditions, which would be favourable for both partner sides. Even though the Chery Auto is now well established company, it went through couple of crisis, but it can be stated that those crisis made them even stronger. From this reason it wouldn't be easy for VW to offer conditions, which would be accepted from the Chery Auto. If these approaches fail, it is not recommended another M&A strategy as described in chapter 7, because there exist

a risk, that VW would have to give up it technology know how, which is not acceptable for them. To sustain given M&A strategy VW would have to find another partner to create a wholly owned subsidiary on the Chinese market.

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13. Appendices

13.1. Blue oceans examples

The Model T

In 1908, while America's five hundred automakers built custom-made novelty automobiles, Henry Ford introduced the Model T. He called it the car "for the great multitude, constructed of the best materials." Although it came in only one colour (black) and one model, the Model T was reliable, durable, and easy to fix. And it was priced so that the majority of Americans could afford one. In 1908 the first Model T cost \$850, half the price of existing automobiles. In 1909 it dropped to \$609, and by 1924 it was down to \$290. In comparison, the price of a horse-driven carriage, the car's closest alternative at the time, was around \$400. A 1909 sales brochure proclaimed, "Watch the Ford Go By, High Priced Quality in a Low Priced Car."

Ford's success was underpinned by a profitable business model. By keeping the cars highly standardized and offering limited options and interchangeable parts, Ford's revolutionary assembly line replaced skilled craftsmen with ordinary unskilled laborers who worked one small task faster and more efficiently, cutting the time to make a Model T from twenty-one days to four days and cutting labor hours by 60 percent. With lower costs, Ford was able to charge a price that was accessible to the mass market.

Sales of the Model T exploded. Ford's market share surged from 9 percent in 1908 to 61 percent in 1921, and by 1923, a majority of American households owned an automobile. Ford's Model T exploded the size of the automobile industry, creating a huge blue ocean. So great was the blue ocean Ford created that the Model T replaced the horse-drawn carriage as the primary means of transport in the United States.

General Motors

By 1924, the car had become an essential household item, and the wealth of the average American household had grown. That year General Motors (GM) unveiled a line of automobiles that would create a new blue ocean in the auto industry. In contrast to Ford's functional, one-color, single-model strategy, GM introduced "a car for every purse and purpose"—a strategy devised by chairman Alfred Sloan to appeal to the emotional dimensions of the U.S. mass market, or what Sloan called the "mass-class" market.

Whereas Ford stuck with the functional "horseless carriage" concept of the car, GM made the car fun, exciting, comfortable, and fashionable. GM factories pumped out a broad array of models, with new colors and styles updated every year. The "annual car model" created new demand as buyers began to trade up for fashion and comfort. Because cars were replaced more frequently, the used car market was also formed.

Demand for GM's fashionable and emotionally charged cars soared. From 1926 to 1950, the total number of cars sold in the United States increased from two million to seven million a year, and General Motors increased its overall market share from 20 percent to 50 percent, while Ford's fell from 50 percent to 20 percent.

But the rapid growth in the U.S. auto industry unleashed by this new blue ocean could not last forever. Following GM's surging success, Ford and Chrysler jumped into the blue ocean GM had created, and the Big Three pursued the common strategy of launching new car models yearly and hitting an emotional chord with consumers by building a wide range of car styles to meet various lifestyles and needs. Slowly, bloody competition began as the Big Three imitated and matched one another's strategies. Collectively, they captured more than 90 percent of the U.S. auto market.

13.2. Volkswagen H1 financial results

In the first half of 2009, the Volkswagen Group extended its global competitive position and strengthened its financial base. In the first six months of the year, Europe's largest automobile manufacturer delivered 3.1 million (H1 2008: 3.3 million) vehicles worldwide. Although the overall market contracted by around 18 percent, Group deliveries decreased by only 4.4 percent. Consequently, its share of the global passenger car market rose to 12.0 percent (9.9 percent). Sales revenue declined by 9.4 percent to \in 51.2 billion (\in 56.5 billion) in the first six months due to volume-related factors. Operating profit amounted to \in 1.2 billion (\in 3.4 billion), of which \in 928 million is attributable to the seasonally strong second quarter. The Group generated profit after tax of \in 494 million (\in 2.6 billion). The Automotive Division's net cash flow in the first six months rose substantially to \in 4.3 billion (\in 2.3 billion). Volkswagen also increased net liquidity in the Automotive Division by \in 4.3 billion compared with the end of 2008 to \in 12.3 billion as of June 30, 2009.

The Audi premium brand recorded a 13.6 percent decline in unit sales. However, with an operating profit of a substantial \in 823 million (\in 1,299 million), it impressively

demonstrates that it has no difficulty competing in the current tough economic climate. The figures for the Lamborghini brand included in the key figures for Audi also declined year-on-year because of the weak market. At the Škoda brand, a decrease in unit sales of almost 26 percent and unfavourable exchange rate conditions cut operating profit to €135 million (€381 million). SEAT recorded a 25 percent decline in unit sales and an operating loss of €159 million (operating profit of €2 million) because of the further deterioration of the Spanish passenger car market.

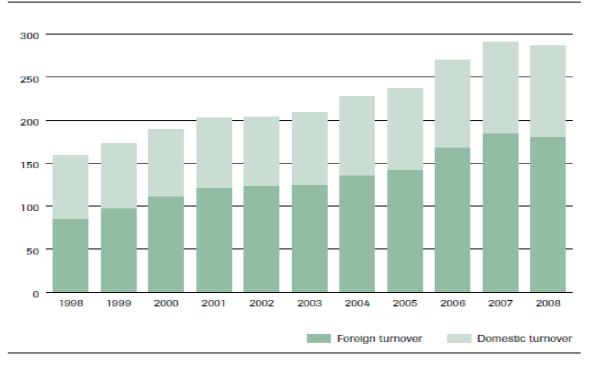
The Bentley brand was unable to escape the slump in unit sales in the luxury segment, leading to an operating loss of \in 114 million (operating profit of \in 85 million). Volkswagen Commercial Vehicles profited from the sale of the Brazilian heavy truck business in the first quarter and generated an operating profit of \in 463 million (\in 215 million) in the first half of 2009.

Scania recorded an operating profit of €48 million.

With an operating profit of €321 million (€523 million), Volkswagen Financial Services again made a significant contribution to the Volkswagen Group's earnings.

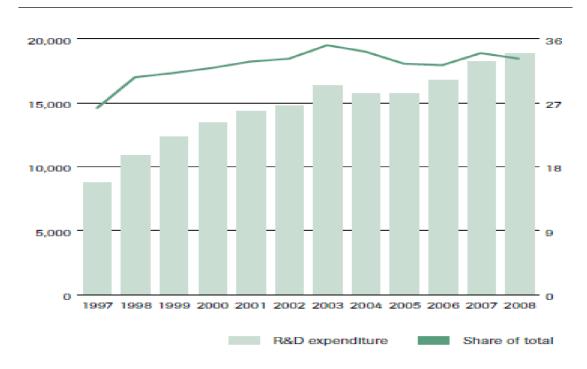
13.3. Figures of German automobile industry

Development of sales in the German Automotive Industry $_{\mbox{\scriptsize In m Euro}}$



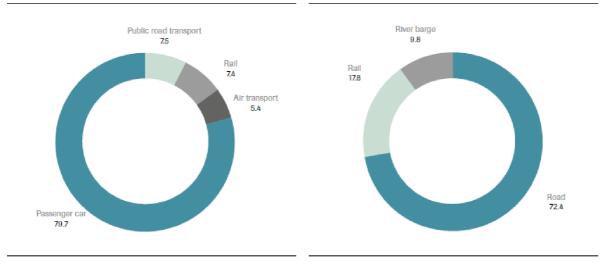
Source: Federal Statistical Office

R&D expenditure of the German Automotive Industry In m Euro



Most preferred mean of transport

Passenger transport volume (road transport) In percent Freight transport volume In percent



Source: DIW, Federal Statistical Office, BVU

Source: progtrans

13.4. Chinese automakers possible for acquisition

Chery Automobile Co.,Ltd. was founded in 1997 in Wuhu City, P.R.China. Despite its humble beginning, Chery has achieved many unlikely breakthroughs and become the fastest growing independent automaker in China. Chery is committed to developing world-class automobiles via cooperation with top engineering firms such as Lotus Engineering of the U.K, and Mitsubishi Automotive Engineering of Japan, and leading auto designing firms such as Bertone and Pininfarina of Italy. In its relentless pursuit of quality, Chery adopts DURR Paint Systems in its paint shop in 2004. In 2005, as a groundbreaking event for Chinese automotive industry, Chery starts producing China; s first high-performance Euro IV engines in cooperation with AVL List of Austria. In addition, in J.D.Power 2004 China Initial Quality Study, Chery QQ finishes NO.1 in compact car segment. With an ambition to become a global player, Chery has so far launched its products in 29 countries. For the time being, Chery is developing a new line-up of products aiming at auto markets in the U.S and EU. In 2005, a strategic partnership is formed between Chery and Vesionary Vehicles of the USA for launching Chery products in North America in 2007

Rongcheng Huatai Automobile Co., Ltd. founded in 2000 is the designated auto manufacturer. The main products are 12 kinds of reequipping auto including i°Huataii± Brand SQ6470W type sport utility vehicle, Aoben RC5020XGC engineering auto,

RC5020XJB auto for police, RC5020XQC auto for prisoners, RC5020XXY van and so on. This company has already had the production ability of 30,000 autos annually and set up 105 4S shops combining sales, after-sales service, market feedback and parts supply together in 29 provinces, cities and municipalities in China, which has formed a sales network in China. A developing auto enterprise can co-operate with Korean Hyundai tech£5th one in world auto industry£to optimize product structure, improve tech and management level completely and reach the standard of overseas modern auto production base, which has been highly praised by Hyundai Group. In 2002, Rongcheng Huatai signed Tech Transferring Agreement with Korea Hyundai at the beginning of August, which indicates that Rongcheng Huatai will co-operate with Hyundai more.

Yuejin Motor Group, established on the basis of Yuejin Motor (Group) Corporation (previously named Nanjing Auto Works) as the parent company and approved by the State Economy and Trade Committee, is one of the largest enterprise groups in China. In 2005 Yuejin Motor Group possesses an annual production capacity of 180,000 vehicles of various models and has three major vehicle production bases, namely, Nanjing Yuejin, Nanjing Iveco and Nanjing Fiat. The products cover more than 400 types of models, including passenger cars, light duty trucks, light duty buses, cross country vehicles, small-sized passenger/cargo transportation vehicles, special-purpose vehicles as well as various types of chasses etc. Yuejin Motor Group has been engaged mainly in exploring the overseas markets of automobiles and parts & components thereof. The products have been exported to many countries and regions such as Argentina, South Africa, Sudan, Ivory Coast, Namibia, Djibouti, Tanzania, Cyprus, Togo, Italy and Spain etc. In addition, it has obtained successful experience in establishing abroad SKD/CKD assembly plants of trucks and minibuses.

13.5. Technology innovations, leading towards environment friendly vehicles

GDI

Gasoline direct injection (GDI) engines spray the fuel directly into the combustion chamber of each cylinder (as opposed to a Port Fuel Injection or carburetor engine) and deliver significantly increased performance and decreased fuel consumption and emissions.

	For years, diesel development stalled in the U.S. light vehicle market due
Clean Diesel	to unacceptably high tailpipe emissions as well as its smelly, noisy, sooty image. But now OEMs are rolling out several so-called "clean diesel" vehicles with exhaust-scrubbing systems for engines that burn ultra-low sulfur diesel (ULSD). (U.S. oil refineries are producing ULSD in response to EPA mandates that went into effect in late 2006.) Clean diesel systems combine cleaner diesel fuel, advanced engines and effective exhaust-control technology. J.D. Power and Associates predict that diesel sales will approximately triple in the next 10 years, in part because diesels are inherently fuel efficient — typically getting 20 to 40 percent more miles per gallon than gasoline vehicles.
E85	E85 is the term for motor fuel blends of 85 percent ethanol and 15 percent gasoline. Besides its superior performance, ethanol burns cleaner than gasoline; it is a completely renewable, domestic, and environmentally friendly. E85 is at least 20 percent less expensive than regular unleaded fuel.
Hybrids	Hybrid vehicles combine an internal combustion engine and an electric motor powered by batteries, merging the best features of combustion engine cars and electric vehicles. The combination allows the electric motor and batteries to help the conventional engine operate more efficiently, cutting down on fuel use.
HCCI Engines	Homogeneous Charge Compression Ignition, or HCCI, is a relatively new combustion technology. It is a hybrid of the traditional spark ignition (SI) and the compression ignition process (such as a diesel engine). This produces power similar to today's conventional gas engines, but uses less fuel to do it. HCCI is compatible with all commercially available gasoline and E85 ethanol fuels. CSM Worldwide projects this technology will emerge in the 2015-2020 timeframe.
Fuel Cells	Fuel Cell Vehicles (FCVs) are propelled by electric motors. But while battery electric vehicles use electricity from an external source (and store

it in a battery), FCVs create their own electricity. Fuel cells onboard the vehicle create electricity through a chemical process using hydrogen fuel and oxygen from the air. CSM Worldwide foresees fuel cells in commuter cars in the 2013-2015 timeframe and volume production in the 2025-2030 timeframe.