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# **The Utilisation of Value Based Management in the Strategic Management of German's Automotive Industry**

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## **Abstract**

### **The Utilization of Value Based Management in the Strategic Management of German's Automotive Industry**

The purpose of this research paper is to analyse the value-based management commitment of automotive enterprises and to examine the factors that explain the control parameters in automotive industry. There have been a few empirical studies published in the German's automotive sector but most of the existing studies failed to provide evidence of utilisation of value-based management in the strategic management in the automotive sector. The German automotive industry's development is closely related to global economic developments. Previous research work has considered control parameters of enterprises but there is little evidence on the factors that explain which control parameters are used in automotive industry. A survey based on annual reports from the year 2008 to 2011 is used. In total, 20 annual reports of automotive companies were analysed. The results show that automotive companies, especially Original Equipment Manufacturers (OEMs) and listed suppliers, have committed to value-oriented management and have implemented value-oriented approaches. However, not all of the suppliers are communicating

this in their reports. The results also show that Economic Value Added (EVA) is the leading key indicator in the automotive industry.

**Key words:** Shareholder value; value-based management, control parameters; automotive enterprises.

## **Introduction**

The utilization of value based management in the strategic management of German's automotive industry. The utilization of value-based management in the strategic management for the German's automotive industry is still an area which has not drawn any attention in the current literature. There have been a few empirical studies published in the German's automotive sector but most of the existing studies failed to provide evidence of utilisation of value-based management in the strategic management in the automotive sector. Data was collected through qualitative observation and in-depth interviews process. The results show that the application of value-based management is essential for German's automotive companies.

Over recent years, the global automotive industry has generally experienced continual growth (Becker 2010). The major market actors of this industry are Original Equipment Manufacturers (OEMs), and

suppliers of various value-added stages (Wagner 2006). In 2011, the automotive industry plays a key role in terms of providing a model for other industrial sectors (Göpfert and Grünert, 2009). As a result of the economic growth following the financial market and economic crisis, managers of OEMs, such as Daimler, refer to the months following the financial crisis as being the most successful ones in their corporate history.

OEMs of highly developed economies can maintain and expand their market position only if they increase their enterprise value continuously (Hekkert et al. 2007). For this purpose, the corresponding department of OEMs uses value-based management tools. Among other things, the performance rendered by the particular automotive enterprise must be strategically planned, controlled, and, above all, evaluated by means of indicators (Eberlein 2010, pp. 387). An enterprise's actions must be exclusively aimed at increasing the enterprise value from the point of view of the shareholders. This approach, the so-called shareholder value approach, was particularly developed by Rappaport (1986) in the United States in the 1980s. His 'Creating Shareholder Value' concept propagates management's orientation towards maximising the value of shareholder investments (Rappaport 1986, p. 3). Hence, this basic orientation's goal is

to create the maximum value of an OEM's shareholders. The practical implementation of this idea is carried out by means of various approaches in German automotive enterprises as well. In addition to Rappaport's shareholder value approach, the economic value added concept (EVA), the discounted cash flow method (DCF), and the cash flow added (CVA), among others, have been used since the 1990s (Ebeling 2007, pp. 1). Sayed (2015) states that market analyst prefers to use heuristics-driven earnings before interest, taxes, depreciation and amortization (EBITDA). Due to the neglect of other stakeholders, the exclusive orientation towards the owners' interests as outlined above has partly been subject to critical assessment (Skrzipek 2005, p. 124). In addition to shareholders, numerous other stakeholders can be observed (Schröder / Wall 2009, pp. 105). Apart from shareholders, creditors, suppliers, employees, customers, competitors, and state organisations are considered to be interest groups used by OEMs as tools for economic actions (Hahn 1996, p. 11).

Several studies that considered in control parameters of enterprises can be found in the literature (Pellens et al, 2000; Achleitner and Bassen 2002; Fischer and Rödl, 2003; Anders et al, 2003; Habersetzer and Hilpisch, 2004; Droste et al, 2006; Kirchhoff, 2006; Quick et al, 2008; Schultze et

al, 2009; Britzelmaier et al, 2010). Nevertheless, there is little empirical evidence on the factors that explain which control parameters are used in automotive industry.

The paper is structured as follows. Firstly, value-based management is a complex field that demands great research. Therefore, the utilization of value-based management in strategic management and the improvement of companies' performance are taken as research objectives for this research. Secondly, the research focus is solely on the automotive industry. The automotive industry is one of the main sectors of the German economy. However, value-based management is not just a topic for automotive companies. Thirdly, the results show that, especially for OEMs, the application of value-based management is essential. The application of value-based management by the suppliers is different to the application of value-based management by the OEMs.

## **Review of Literature**

The German automotive industry's development is closely related to global economic developments. The general global and national development is reflected in the German automotive industry. Working closely with the political sector, the automotive industry, which is of such

great importance to Germany, was able to overcome the economic and financial crisis, and has experienced a new upswing ever since (Financial Times, 5 August 2010). In generating a turnover of 317 billion Euros in 2010, the German automotive industry achieved one fifth of the total turnover in German industry overall. In 2011, the turnover of the German automotive industry continued to increase. According to Statista GmbH, the turnover amounted to 351 billion Euros, compared to 317 billion Euros in 2010 (Statista 2012). The German automotive industry's production quantity, in accordance with information from the company, amounted to approximately 5.0 million passenger cars, which was an increase of 300,000 compared to the year 2010. Exports continued to increase as well. Accordingly, about 4.5 million passenger cars were exported from Germany in 2011 (Statista 2012). According to an analysis carried out by audit and consulting firm Ernst & Young, which was introduced in April 2012, German automotive enterprises increased their sales by 17 per cent in 2012. The EBIT, i.e., earnings before interest and taxes, increased by 43 per cent, the EBIT margin increased to 9 per cent, and sales increased to 21 per cent. Thus, German automotive enterprises managed to distinguish themselves considerably from American and Japanese competitors. Moreover, the German automotive industry is among the biggest employers in Germany. With about 709,000

employees, the automotive industry increased its share of employment of total German industry by 14 per cent in 2010 (Federal Ministry of Economics and Technology 2010).

However, the German automotive industry is still facing complex challenges. On account of globalisation, growing brand and model diversity, increased customer requirements, increasing development costs and development risks, as well as technological changes, new complex requirements, which must be managed by enterprises in order to remain competitive in the future, have emerged. The decreasing importance of the domestic market and the strong growth in the Asian and East European markets in particular require a comprehensive strategic orientation of enterprises in the automotive industry in order to withstand the competitive pressure.

Innovation, efficiency, and costs will be the key concepts to be dealt with by corporate management in the future. In addition, organisational changes regarding more network-oriented strategies have to be managed. These requirements are hampered by the diversity of national and international legal and regulatory provisions that must be adhered to, further increasing the German automotive industry's complexity. Having a high degree of flexibility and openness is the only way for corporate

management to succeed in achieving a sustainable increase of corporate value amidst the tensions of competitive and cost-related pressures and the high requirements and demands made by the number of stakeholders.

### **Facts and figures on the automotive industry at a glance**

The German automotive industry's development is closely related to global economic developments. With the end of the economic and financial crisis and the recession that accompanied it, the global economy has recovered considerably over recent years. However, this development has been accompanied by shifts related to growth drivers. Thus, two thirds of global economic growth in 2010 was achieved by emerging and developing countries (German Association of the Automotive Industry 2011, p. 14). Due to its strong overall economic production and the economic importance related to it, the so-called BRIC countries in particular, i.e. the emerging countries Brazil, Russia, India, and China, have increasingly become the focus of the economic public in recent years (Paludkiewicz, Paula & Wohlrabe 2010, p. 42).

In contrast, the economic development of the United States and Japan has been considerably more moderate, especially since Japan had to additionally cope with the major natural disaster in 2011 (ifo Institute

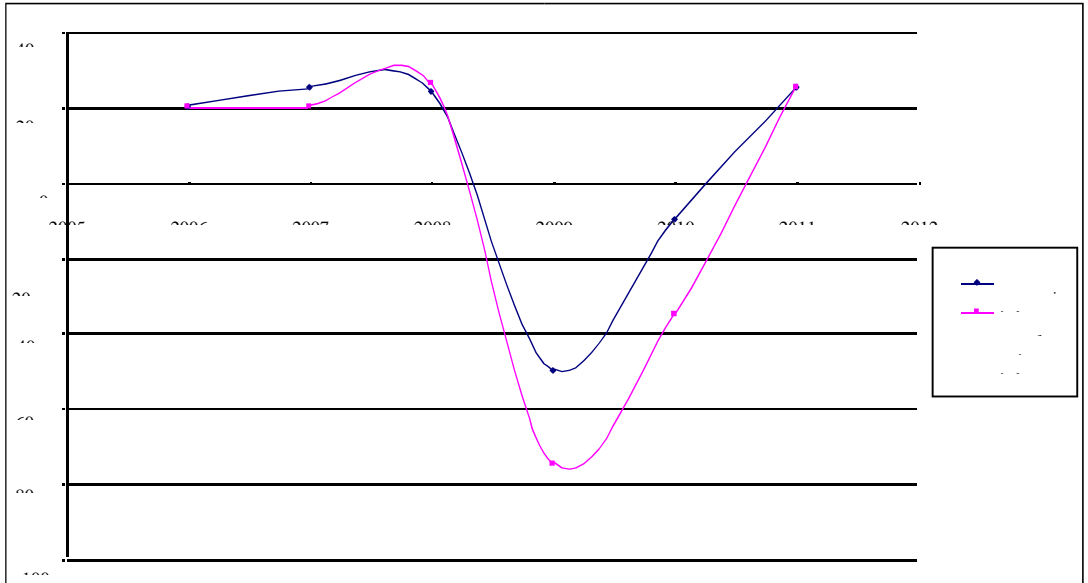
2011, p. 5). As for Europe, the tendency for contrasting economic development of the individual Euro countries, i.e., the countries with the Euro currency, has further increased. The ongoing recession in Greece and Spain as well as Germany's comparatively strong economic growth have intensified the so-called "Euro crisis" (European Central Bank 2011, p. 10).

These shifts can also be observed when considering international trade flows. Whereas the world market shares in exports of the United States and Japan combined decreased to about 13 per cent in 2009, Germany and China increased their share to approximately ten per cent (German Association of the Automotive Industry 2011, p. 15). The upswing in Germany is based primarily on the two factors of domestic demand, and export. Thus, in accordance with information supplied by the Federation of German Industries, almost 50 per cent of Germany's economic output was based on its exports (Federation of German Industries 2010). However, Germany's domestic economy, too, has maintained its economic strength. The increase in real disposable income and a new employment record are having positive effects on consumer and capital goods demand (German Association of the Automotive Industry 2011, p. 16).

The general global and national development is also reflected in the German automotive industry. Working closely with the political sector, the automotive industry, which is of such great importance to Germany, was able to overcome the economic and financial crisis, and has experienced a new upswing ever since (*Financial Times*, 5 August 2010). In generating a turnover of 317 billion Euros in 2010, the German automotive industry achieved one fifth of the total turnover in German industry overall.

Moreover, the German automotive industry is among the biggest employers in Germany. With about 709,000 employees, the automotive industry increased its share of employment of total German industry by 14 per cent in 2010 (Federal Ministry of Economics and Technology 2010). A further major role in stabilising the labour market is played by the medium-sized supply industry, which employs about one million people (German Association of the Automotive Industry 2011, p. 18). According to the German Association of the Automotive Industry, approximately five million people are employed in automotive areas.

The chart below, which is based on calculations of the IFO Institute, depicts the automotive industry's economic development in comparison with the manufacturing industry:



**Figure 1: Economic development of German automotive industry vs. manufacturing industry**

Source: Author's own illustration with reference to the German Association of the Automotive Industry 2011, p. 15 based on the IFO Business Climate Index

In 2010, German manufacturers produced more than 12.7 million vehicles, most of which were delivered abroad. Thus, the German automotive industry plays a vital role in exports (Federal Ministry of Economics and Technology 2010). The table presented below contains

the most important basic economic data of the German automotive industry:

Industrial Sector	Annual Data		
	2008	2009	2010
<b>Automotive industry</b>			
Total turnover (as billion Euros)	330.9	263.1	317.0
Domestic turnover (as billion Euros)	132.7	112.5	117.9
Turnover abroad (as billion Euros)	198.2	150.6	199.1
Export ratio (as %)	59.9	57.3	62.8
Employees (in 1000)	749.1	723.2	702.0
Hours worked	1,082.9	949.8	1.013.6
Gross wages and salary	37.9	34.7	35.5
Turnover per staff member (as 1000 Euros)	441.7	363.9	451.6
Turnover per hour (as Euros)	305.5	277.0	312.7
Wage ratio (wage-turnover relation)	11.5	13.2	11.2

Wages per hour (as Euros)	35.0	36.5	35.0
Hours worked	1,445.7	1.313.4	1.444.0
Gross wages and salary per staff member (as 1000 Euros)	50.7	47.9	50.6
<b>Compared to manufacturing industry</b>			
Export ratio (as %)	45.4	44.4	46.3
Turnover per staff member as 1000 Euros)	300.7	252.6	296.6
Turnover per hour (as Euros)	192.7	172.5	191.9
Wages ratio (wage-turnover relation)	14.0	16.1	14.4
Wages per hour (as Euros)	26.9	27.8	27.6
Hours worked	1,560.4	1.464.4	1.545.0
Gross wages and salary per staff member (as 1000 Euros)	42.0	40.7	42.6
<b>Share of automotive industry in manufacturing industry (%)</b>			
Total turnover	21.1	20.6	21.6
Domestic turnover	15.5	15.8	15.0
Turnover abroad	27.9	26.6	29.3

Staff members	14.4	14.3	14.2
Hours worked	13.3	12.8	13.3
Gross wages and salary per staff member (as 1000 Euros)	17.3	16.8	16.9

**Table 1: Basic economic data of German automotive industry 2008–**

**2010**

Source: Hild 2011, p. 39 according to calculations of the Federal Statistics Office, Fachserie 4, Reihe 2.2

As can be seen from the table above, the German automotive industry's turnover in 2010 was made up of 118 million Euros gained from domestic business and almost 200 billion Euros from foreign business. Thus, compared to 2008, the export ratio increased by approximately three percentage points.

### **Implications of OEMs and EVA in the German Automotive Industry**

*Automotive manufacturers* or *original equipment manufacturers* are major enterprises which are in charge of vehicle architectures, system integration, production of components, final assembly, and distribution,

thus controlling the entire process (Barthel et al, 2010, p. 16). Such enterprises act on a global scale, maintaining globally distributed production facilities corresponding to the sales markets (Barthel et al, 2010). Among the German automotive enterprises are BMW, Daimler, and Volkswagen. In addition, there are a number of other German manufacturers whose parent companies have registered its seat abroad, such as Ford company located in Germany. the success of the OMEs is largely based on exports. In this context, a special feature of German automobile production is the strong focus on the so-called premium segment, since the price elasticity of demand here is lower than in the other segments. According to estimates of the Centre for Automotive Research at the University of Duisburg, the global passenger car market volume of 57.14 units accounted for a share of 5.35 million units from the premium segment (Frese 2010). This accounts for 9.4 per cent of the world market volume. According to is a share of 3.91 million units and, thus, 73.1 per cent of all premium vehicles sold worldwide went to German manufacturers.

The optimistic forecast of the Center for Automotive Research is additionally underlined by the consultancy enterprise Berylls Strategy Advisors, forecasting an increase in growth of the premium segment to 9.7 million passenger cars worldwide by 2020 (Automobil Produktion,

2012). In this connection, German premium brands also play a leading role in terms of profitability: with an average EBIT margin of 11 per cent, they exceeded the volume brands by more than double (Automobil Produktion, 2012).

Yet, despite all the optimistic forecasts, it cannot be denied that, due to increasing market saturation; the market situation will be more difficult in the future for all enterprises. Similar to other authors, Diehlmann and Häcker (2010) forecast a future reduction of manufacturing enterprises to six or seven OEMs. In support of their claims, they state that automotive manufacturers that have run into difficulties will be forced into mergers or joint ventures. Furthermore, they mention that failures concerning ecological <sup>29</sup> and economical vehicles will lead to new market participants specializing in vehicle segments with alternative drive systems in order to be given the opportunity of establishing themselves on the market (Diehlmann and Häcker 2010).

At present, however, the trend towards growth seems set to increase permanently. According to an analysis carried out by audit and consulting firm Ernest & Young, which was introduced in April 2012, German automotive enterprises increased their sales by 17 per cent in 2012. The EBIT, i.e., earnings before interest and taxes, increased by 43 per cent, the EBIT margin increased to 9 per cent, and sales increased to

21 per cent (focus.de, 11 April 2012). Thus, German automotive enterprises managed to distinguish themselves considerably from American and Japanese competitors. The German premium manufacturers Porsche, Daimler, and BMW in particular showed considerable leaps in growth last year. At Porsche, with 10,677 vehicles, the number of deliveries carried out in June 2011 increased by 29.5 per cent compared with the same month the previous year (kfzmarkt.info 2011). In the first six months of 2010, Porsche delivered 60,659 new vehicles, i.e. 36.8 per cent more than during the period between January and June 2010. The demand for the Cayenne sports-utility vehicle in particular is very high internationally. Even here, however, local differences in sales can be seen. Whereas sales in the USA, Russia, and China increased considerably, Porsche, with a decline in deliveries to customers by 6.5 per cent, showed declining sales figures on the European market (kfzmarkt.info 2011). Similar to Porsche, the high growth rates in Asia and the BRIC countries caused a positive development in sales at Mercedes Benz too. Regarding China in particular, this company was able to increase its sales by more than 50 per cent (kfzmarkt.info 2011).

In the literature, the economic value added (EVA), and the cash value added (CVA) are frequently highlighted as the key value based control

parameters (Voigt 2012; Weber et al. 2002; Stührenberg & Streich 2010; Lorson 2004). It was developed by Stewart (1990). This approach is an excess earning method as well as a concept based on residual income. According to Stewart (1990, p. 2), EVA is ‘operating profits less the cost of all capital employed to produce those earnings’. It measures an enterprise’s value growth in relation to a specific period. Its calculation is not based on cash flows, but on the operating profit after taxes as reported in the annual financial statement (Düsterlho 2003, p. 65). This method focuses on the period-related difference between an enterprise’s operating profits generated by the capital employed and the costs resulting from the investment of capital (Weber et al. 2002a). This difference is referred to as residual profit.

### **Management requirements**

Typically, managers are confronted with the task of optimizing the allocation of scarce resources. However, the importance of the issue in question, how to measure and persistently maximise the value of an organisation, has increased significantly in the last 20-30 years. In this period, the economic and social environment has constantly changed so that those who are responsible for management accounting and who have

management control functions are provided with new challenges. As it turns out, the traditional management concepts, which are based on accounting earning measures and therefore do not take into account the risk notion, the impacts of inflation, or opportunity costs, are no longer sufficient (Stern Stewart & Co., 1999). These metric systems do not reflect the real value creation (Ameels et al., 2002). The inefficiencies of the traditional (from the management accounting viewpoint) concept of control systems result from the behavioural shortcomings mentioned in the agency theory.

The principal agency theory as developed by Jensen and Meckling (1976) and Fama (1980) describes, as a model, the acts of people in hierarchies and describes the design of contracts. The protagonists are connected by a contractual connection which creates a dependence on the agent from the principal who delegates special competences to the agent to realise his interests. The theory explains the relation between the protagonists, which is characterised by an asymmetry of information. The behaviour of both principal and agent is determined by their self-interest and preferences, and both parties aim to maximise their own benefits. Thus, the principal and agent are in a conflict of interests. In this case, the shareholders would be the principal, while the manager would be the agent. The

shareholders' goal is for the contract to be fulfilled to their optimal benefit by the management. On the other hand, the manager's goal is to perform in such a way that he can gain his own profit (Britzelmaier, 2009, p. 19). With regard to the enhancement of the value of an organisation, the principal agency theory is not sufficient because creating shareholder value is not the inevitable goal of the managers, nor their 'top priority' (Young and O'Byrne, 2000, p. 4), as they do not own the company they manage.

Recognising this problem, the need for an integrated management tool has arisen in order to establish congruence between the objectives of the agents and those of the principals of the organisation. Value-based management systems are considered to reduce this lack of goal congruence (Ameels et al., 2002, p. 5).

### **Value-based management**

On the basis of an empirical study, Peters and Waterman (1982) stated that organisations do not necessarily create a financial benefit, and therefore value, for their shareholders, even if they generate outstanding value of traditional indicators, such as rentability of total capital, equity and return on sales as well as growth of total assets. Their conclusion was

to give treatment recommendations for the improvement of management. Rappaport (1986) chose a different path by considering how to determine the value of an organisation and of its respective parts, and to integrate this value into the goals of management. Rappaport developed a shareholder-value-concept which contained ideas of finance and capital-market theories. This was the first approach to a value-based controlled management, and is still valid. This has been the basis for further contributions, for example by Stern, Stewart and Co. (1999) and The Boston Consulting Group (2002) with their performance indicators such as Economic Value Added (EVA) and Cash Value Added (CVA). Nowadays, value-based management is one of the key philosophies of management. Large companies, such as Siemens AG and Bayer AG in Germany, have implemented the concept in practical terms (Britzelmaier, 2009, p. 11).

In the literature there are many definition of value-based management. Rappaport introduced the issue of creating shareholder value back in 1986. Generally speaking, value-based management is a management control system that measures and supports the creation of net worth to help investors assess companies and help executives evaluate business performance and shareholder value (Olsen, 2002, p. 286). To achieve this

goal, it is necessary to create value. The value of a company is determined by its discounted future cash flows (Koller, 1994, p. 87). Therefore, companies must earn returns on invested capital that exceed the cost of capital to create value for their shareholders (Ameels et al., 2002, p. 5). The leading thinkers, aside from Rappaport, who have written books and research papers on value-based management, are Morin and Jarrell (2001), as well as Martin and Petty (2000). Morin and Jarrell (2001, p. 3) define value-based management as a framework 'for targeting those business decisions that constantly add economic value' to a company and that filters out the facts of the variety of approaches of managing a corporation. Martin and Petty (2000, pp. 4) consider value-based management as a synthesis of multiple business disciplines and subjects, such as finance, business strategy, accounting and organisational behaviour. From the financial perspective, the goal of value-based management is to create shareholder value along with acceptance of the discounted cash flow valuation paradigm. Furthermore, from the point of view of business strategy, value-based management is 'a result of investing in market niches or opportunities where the firm has some comparative advantage over current and potential competitors' (Martin and Petty (2000, p. xiii). Value-based management influences the basic structure of the firm's accounting statements and modifies them for its

own purposes. Overall, from the organizational behaviors perspective, value-based management constitutes a measurement and reward system, ‘designed to encourage employees to focus their activities on the creation of shareholder value’ (Martin and Petty (2000, p. xiii). According to Koller ‘Value-based management can best be understood as a marriage between a value creation mindset and the management processes and systems that are necessary to translate that mindset into action. Taken alone, either element is insufficient. Taken together, they can have a huge and sustained impact (Koller, 1994, p. 89)’. This leads to the conclusion that value-based management is a tool to reduce the lack of goal congruence between the objectives of the management and those of the shareholders of the organisation.

Value-based management is based on indicators which are distinguished according to their content and database. As regards their content, they can be differentiated into absolute and relative indicators (Voigt 2012, p. 8). Absolute indicators measure the added value in relation to a particular period, which is why they are also referred to as value added indicators. Relative indicators, termed profitability indicators, measure the success in relation to capital employed. As to the database, a distinction is drawn between an outcome measure and a payment measure. The table below

depicts these connections on the basis of categorizing a number of selected value-based indicators.

**Tab. 1: Categorizing exemplary value-based indicators**

	<b>Value Added</b> <b>(absolute indicator)</b>	<b>Profitability</b> <b>(relative indicator)</b>
<b>Outcome measure</b>	Cash Value Added (CVA)	Cash Flow Return on Investment (CFROI)  Shareholder Value Return (SVR)
<b>Payment measure</b>	Economic Value Added (EVA)  Economic Profit (EP)	Return on Net Assets (RONA)  Return on Capital Employed (ROCE)

Source: Voigt (2012, p. 8)

Over the past decades, various researchers have conducted a number of empirical studies on the subject of value-oriented management. In the context of these studies, German companies from various industries were questioned on value-oriented management. In each case, the studies explored different lines of questioning. While some were interview-based, others analysed business reports, and yet others derived their findings

from the evaluation of questionnaires. The most relevant studies are summarized in the following table.

**Tab. 2: Empirical studies regarding value-oriented management**

<b>Author(s)</b>	<b>Year</b>	<b>Coverage</b>	<b>Data source</b>
<b>Pellens et al.</b>	2000	DAX 100	Interview
<b>Achleitner/ Bassen</b>	2002	DAX 100	Questionnaire
<b>Fischer/Rödl</b>	2003	DAX 30	Financial report
<b>Aders et al.</b>	2003	DAX 100	Questionnaire
<b>Habersetzer/ Hilpisch</b>	2004	Top 20 leading insurers in Germany	Questionnaire
<b>Droste et al.</b>	2006	DAX 30	Financial report and questionnaire
<b>PWC/ Kirchhoff</b>	2006	DAX 30	Financial report

<b>Quick et al.</b>	2008	Euro Stoxx 50	Financial report
<b>Schultze et al.</b>	2009	DAX 30 and 70 other companies	Questionnaire
<b>Britzelmaier et al.</b>	2010	Stoxx 50	Financial report

Source: Author's own illustration

The most relevant results from these studies can be inferred from the following table.

**Tab. 3: Relevant results from published studies**

<b>Author(s)</b>	<b>Commitment to value-based management (%)</b>	<b>Share of EVA (%)</b>	<b>Information on calculation and/or amount of the cost of capital (%)</b>
<b>Pellens et al.</b>	83.30	13.60	65.20
<b>Achleitner/</b>	78.00	50.00	58.00

<b>Bassen</b>			
<b>Fischer/Rödl</b>	86.66	84.62	61.11
<b>Aders et al.</b>	97.00	39.00	84.00 (‘hurdle rates’)
<b>Habersetzer/ Hilpisch</b>	40.00	88.00	N/A
<b>Droste et al.</b>	N/A	69.23	76.92
<b>PWC/ Kirchhoff</b>	Non-comparable; Scoring Modell		
<b>Quick et al.</b>	82.00	84.62	N/A
<b>Schultze et al.</b>	43.00	N/A	53.00
<b>Britzelmaier et al.</b>	68.00	78.57	71.00

Source: Author’s own illustration

These studies include all possible sectors of industry, whereas my own study is focused exclusively on automobile manufacturers. Nevertheless, the studies illustrate that most companies are committed to value-oriented management. It is also obvious in the index of studies that those based on

questionnaires show higher values than those based on business reports. This indicates that companies have implemented value-oriented approaches, but are not communicating this in their business reports. Furthermore, it is apparent that EVA is the dominating key indicator. This is somewhat surprising, since the calculation of EVA is non-uniform and allows for only limited comparability.

## **Methodology**

In the framework of this paper, the primary research is meant to collect data about the attitudes of managers in OEMs according to the value-based management topics the research is focused on. The managers can only be approached individually because they work in different companies. Hence, focus group discussions will be hard to realise, just for pragmatic reasons. Also a case study is the best method to use because the questions raised by the research are gathered around the same topics and without any close relationship to singular or even extraordinary cases (Jones 2006, pp. 316– 317).

The method applied in the research paper, will be an interview in a face-to-face situation. For reasons of limited resources, especially on the side of the interviewed managers, the strategy of a semi-structured interview

has been chosen. By running a semi-structured interview, the thesis seeks to collect interesting data while being as efficient as possible in terms of resources. Why these chosen means have the advantage of being precise without being restrictive.

In the first step, the framework of the study was to determine to what extent companies in the automotive sector in Germany use value-based management, and whether value-based management plays a special role. In preparation for the study, the following hypothesis was formulated, and needed to be analysed: ‘Automotive companies utilise value-based management in the strategic management of their corporation.’

Above all, the following questions were to be addressed:

- Are automobile manufacturers committed to the use of value-based management?
- What are the key indicators used in value-oriented management control?

The annual and/or sustainability reports and publications on the web pages of the automobile manufacturers and their main suppliers were consulted and analysed to obtain essential information regarding value-

oriented business management. Based on the annual reports, the company name and legal form were collected. To highlight size characteristics of the automobile manufacturers and suppliers, net revenue and total assets were surveyed, and the number of employees was also determined. In the case of a parent company, these factors were collected from the entire group. Accordingly, in the case of a subsidiary, only the factors of the subsidiary were collected. This collection methodology led to overlaps, since many companies in the automotive industry have shares in other automotive industry companies. The number of employees considered was the total number of employees at the end of the financial year. Besides these size characteristics, data regarding the utilisation of value-based management were collected. This was to determine whether the companies are explicitly committed to value-based management in their annual reports. The annual reports were subsequently examined to see whether the companies are committed to increasing value for shareholders. There is a differentiation here between companies that regard value-based management as an explicit mission, also putting this on the record in their annual report, and those companies that do not do it explicitly.

Furthermore, the key indicators of value-based management were surveyed. In regard to the value-based management indicators, there is further differentiation as to whether companies use 'pure' value-oriented indicators, i.e. value-oriented indicators in the narrower sense, or whether companies use value-based management indicators in the broader sense. Value-oriented indicators in the narrow sense are, for example, the EVA, shareholder value, or free cash flow. These indicators are not subject to the limitations of traditional indicators. Value-based indicators in the broad sense also include return figures such as the ROI, ROCE, ROE and ROA.

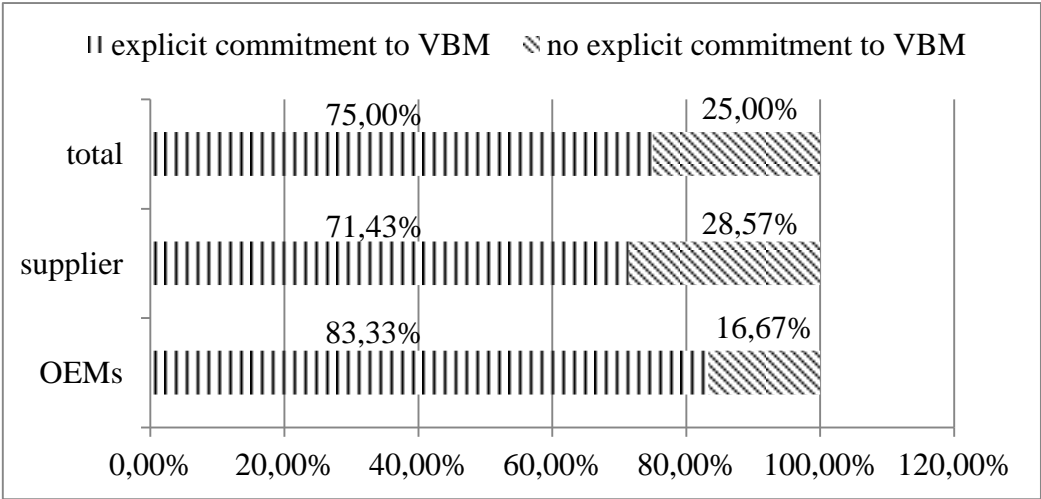
The evaluation of results was performed mainly on the basis of characteristics extracted from the annual reports. The survey was based on annual reports from the year 2008 to 2011. In total, 20 annual reports of automotive companies were analysed.

### **Explicit value-based management commitment**

The first step of the study was to determine whether the companies are explicitly committed to value-based management, and whether this is recorded in their annual report. The survey concludes that the majority (75%) make a statement on value-based management. These automobile

manufacturers and suppliers confirmed that they manage their companies in a value-based way, in order to achieve sustainable growth in corporate value and thereby meet shareholders' expectations. The remaining 25% did not issue any statements regarding value-based management.

**Fig. 1: Explicit commitment to value-based management**



Source: Author's own illustration

It is interesting to note that OEMs have a stronger commitment to value-based management (83.33%) than suppliers (71.43%).

Furthermore, annual reports were examined to see whether the companies utilise value-based indicators. It can be noted here that 45% of the surveyed companies use 'pure' value-oriented indicators. The other half of the companies does not use 'pure' value-oriented indicators, or at least

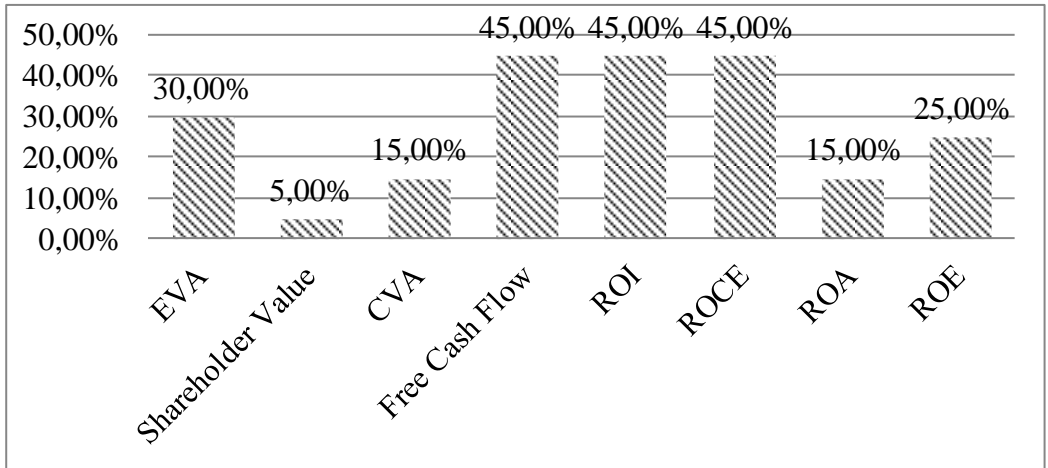
did not communicate this. Those companies that did not include ‘pure’ value-oriented indicators in their annual report or sustainability report were classified under ‘not communicated’, since an absence of these indicators in the reports does not exclude the internal utilisation of ‘pure’ value-oriented indicators.

### **Use of value-based management indicators**

Regarding the use of value-oriented indicators in the broad sense, it can be stated that 85% of companies do apply these. Besides modern indicators like the EVA, this also includes return indicators such as the ROI. Therefore, 15% of the companies surveyed either do not use value-oriented indicators, or do not communicate these.

In the context of this study, the indicators that are used in the various companies were also surveyed. The chart below illustrates the distribution of value-oriented indicators in the companies surveyed. At 45% each, free cash flow, ROA and ROE are the most frequently used indicators by the surveyed companies. Also enjoying great popularity are the EVA (30%) and ROI (25%). In addition, the CVA and RPA indicators (15% each) are utilised in corporate management. Somewhat less relevant is the SHV, which is used by only a small percentage of companies.

**Fig. 2: Use of indicators**



Source: Author's own illustration

It is also interesting to note that OEMs have more of a tendency to use value-oriented indicators in the narrow sense (EVA, Shareholder Value or Free Cash Flow) than automobile suppliers. Return indicators such as ROI, ROCE, ROE and ROA are used to the same degree by OEMs and suppliers.

In regard to the question why value-based management was being implemented in the company, seven of the 20 companies surveyed provided responses in their reports. Among others, one reason mentioned for the use of value-based management is the rapid availability of information essential to decision-making. The automobile companies also consider value-based management as important in supporting corporate

control processes. In addition, value-based management is utilised to accelerate the continuous growth of the company. Another objective being pursued is the utilisation of value-based management to support risk-management. Overall, it can be said that companies are using value-based management to pursue the progress of long-term strategic objectives, and to achieve excellent results.

‘Automotive industry companies utilise value-based management in the strategic management of their enterprise’, can be partially verified. The survey has shown that automobile manufacturers are committed to value-based management (75%). A majority also declare that they are strategically managing the enterprise with the help of value-based management, while sustainably increasing the company value. However, in general it cannot be assumed that companies are publishing all of the data regarding the utilisation of value-based management in their annual or sustainability reports. Thus, it follows that companies may be using value-based management, even though they are not communicating this.

## **Conclusion**

This paper pointed out that the overall goal of the value-based management model is to maximise the value of an organisation. The testing of the commitment to the use of value-based management and the examination of key indicators used in automotive companies had the following results:

- Automotive companies, especially OEMs and listed suppliers, have committed to value-oriented management and have implemented value-oriented approaches. However, not all of the suppliers are communicating this in their reports.
- EVA is the leading key indicator in the automotive industry. However, the challenging aspect is that the calculation of EVA is non-uniform and allows for only limited comparability. Therefore, the four most frequent adjustments are: pension provision, restructuring, goodwill and interest payments received.

The survey has been conducted based on information given in the financial reports. It therefore seemed appropriate to re-test the hypothesis

on the basis of the originally developed catalogue of criteria. First, however, the survey methodology had to be revised. On the one hand, one could use the existing criteria list and try to directly contact the finance and controlling departments of the respective companies. One could, for example, attempt to establish contact data of various employees using social networks such as Xing<sup>1</sup> or LinkedIn. On the other hand, one could also use the criteria catalogue as the basis of an interview. An interview has the advantage that it requires a single point of contact within the company, with whom one could agree an appointment time, and in the course of the interview the party responsible could respond to all of the questions. Furthermore, one could ask more specific questions.

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<sup>1</sup> XING is a social software platform for enabling a small-world network for professionals. The platform offers personal profiles, groups, discussion forums, event coordination and other common social community features.

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