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CASE STUDY OF BMW: THE ULTIMATE DRIVING MACHINE

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Case Study of BMW: The Ultimate Driving Machine

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Abstract

BMW is one of the leading players in the premium segment of the global automotive market. The company has established a distinctive brand identity through engineering and design excellence and has been the industry benchmark for product development and brand building. Under the product offensive strategy, BMW aims to be present in the premium end of all significant market segments and is launching new products in rapid succession. This paper examines BMW's innovation and growth strategies in order to identify and learn best practices in product development, brand management, and human resource management.

JEL classification: L63, M10
Key words: BMW, innovation, growth strategy, automobile

1. Introduction

BMW(Bayerische Motoren Werke AG) is one of the leading players in the premium segment of the global automotive market. Based in Munich, Germany, the BMW Group has been focusing on selected premium segments with the brands BMW, MINI, and Rolls-Royce Motor Cars. BMW cars have been highly appreciated by the motoring press and driving enthusiasts for its engineering and design excellence. The vehicles have long been the essence of sporty driving, combining thoughtful engineering, originality, craftsmanship, speed, and handling. Buyers often viewed BMW cars as special, unique, and worth more money than cars built for the masses.

According to BMW management, 2004 has been the most successful year to date in terms of sales and financial performance (See Exhibit 1). Despite adverse global economic conditions, the BMW Group delivered a total of 1,208,732 vehicles in 2004, an increase of 9.4% compared to the previous year. Net profit grew by 14.1% to 2,222 million euro, and return on sales reached 8.0%, one of the highest figure among the world's automotive companies.

Exhibit 1: BMW Group—Key Figures

	2003	2004	Change(%)
Vehicle production			
BMW	944,072	1,059,978	12.3
MINI	174,366	189,492	8.7
Rolls-Royce	502	875	74.3
Motorcycles	89,745	93,836	4.6
In euro million	2003	2004	Change(%)
Revenues	41,525	44,335	6.8
Capital expenditure	4,245	4,347	2.4
Cash flow	4,490	5,167	15.1
Operating profit	3,205	3,554	10.9
Net profit	1,947	2,222	14.1

Source: BMW Annual Report 2004

Dr. Helmut Panke, Chairman of BMW, says "BMW builds high-performing products because BMW is a high-performance organization". In the Fortune 2005 World's Most Admired Companies list, BMW was ranked 11th among the All-Star list and 2rd among non-U.S. companies after Toyota (See Exhibit 2). Even though Toyota and Honda may be better in terms of operational excellence, quality and productivity, BMW has been the most admired company for product development, design and marketing.

Exhibit 2: Fortune 2005 The World's Most Admired Companies

Rank	Company	Industry	Country
1	General Electric	Electronics	U.S.
2	Wal-Mart Stores	General merchandising	U.S.
3	Dell	Computers	U.S
4	Microsoft	Computers	U.S.
5	Toyota Motor	Motor vehicles	Japan
6	Procter&Gamble	Household products	U.S
7	Johnson&Johnson	Pharmaceuticals	U.S
8	FedEx	Delivery	U.S
9	IBM	Computers	U.S
10	Berkshire Hathaway	Insurance	U.S
11	BMW	Motor vehicles	Germany
12	Intel	Semiconductors	U.S
13	UPS	Delivery	U.S
14	Home Depot	Specialty retailers	U.S
15	Sony	Electronics	Japan

Source: Fortune, March 7, 2005

This paper examines BMW's innovation and growth strategies in order to identify and learn best practices in product development, brand management and human resource management.

2. Company Background

BMW was established in 1916 by Gustav Otto as a manufacturer of aircraft engine. In 1917, BMW registered its trademark blue and white rotating propeller still used today. After World War I, the company shifted to making motorcycles and passenger cars. The first BMW motorcycle, the R32, introduced in 1923 was hailed as the most elegantly designed engine of the day. BMW won more than 100 motorcycle races and boasted 573 first-place finishes by 1928.

BMW launched its first car model 'Dixi' in 1928, which was followed by the BMW 3/20 and its derivatives. The 326 saloon, the first BMW to challenge Mercedes-Benz in the saloon segment, debuted in 1936. BMW introduced its first sports car model, the 238, which became a major success in international motor racing events. This was the car, more than other, that defined the prewar BMW and established the company's reputation for engineering and design excellence.

Car production stopped in 1939, as Hitler needed a first-class airplane engine manufacturer. Under the Nazis, BMW built aircraft engines, rockets and developed the world's first production jet engine. As World War II drew to a close, its plant in Munich had been destroyed by Allied bombing and the company was in dire straits. With its factories dismantled, BMW survived by making kitchen and garden equipment.

BMW jumped back into the car business in 1951 with the launch of the 501 model. However, sales of the big pricey saloon languished despite Germany's economic recovery. Turning a bit desperate, BMW introduced the Isetta, a tiny three-wheel microcar in 1955, which turned out to be a failure as well. In 1959, the company's weak financial position almost led to a takeover by its traditional rival, Mercedes-Benz. BMW was rescued by Herbert Quandt, who acquired control of the company for $1 million and initiated a restructuring to bring the company back on track.

In 1959, the success of the BMW 700(a small car) helped the company regain its position in the market. In 1966, with its larger, more sophisticated 02 series, BMW created a new automobile market segment that combined the high-performance engineering of sporty roadsters with the size, styling, and comfort of the European luxury sedan. This combination set BMW apart from its competitors and enabled it to create its own special place in the premium automobile segment.

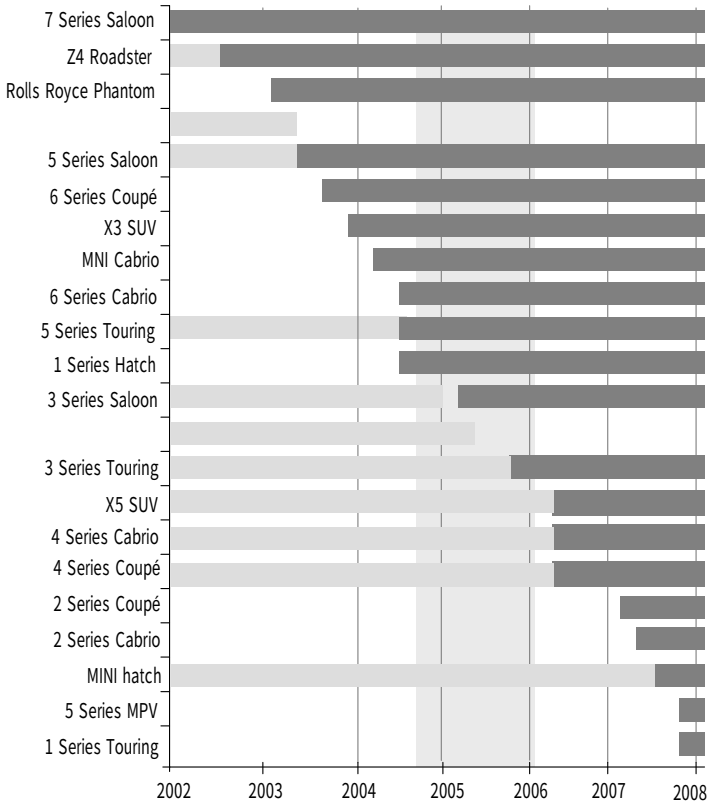
From 1970 to 1990, sales grew by a factor of 15 and the company expanded operations in Europe, North America and Asia-Pacific. It had positioned itself as a trendy and reliable brand, more stylish than other German car brands such as Volkswagen and Mercedes. In addition to styling, heavy investments in R&D put the company at the leading edge of technology in such critical areas as engines, pollution control, safety, chassis design, suspension systems, automotive electronics, and transmissions. Automotive critics regularly voted BMW's models the best cars in the world in their respective class. In 1992, BMW succeeded in outselling Mercedes in Europe for the first time.

Despite its impressive growth over the past few decades, BMW in the mid-1990s had a world market share of only 1.5%. BMW viewed itself as a a highly focused "manufacturer of unique automobiles for a clearly defined, exclusive and demanding clientele all over the world." However, in response to the global consolidation of the automotive industry, BMW felt the need to expand its product range and achieve economies of scale in R&D, purchasing, production and distribution to survive in this business. This led to the decision to acquire Rover, the British automobile group, in 1994.

Unfortunately, BMW failed to reap the expected synergies from the Rover acquisition. Rover cars had many quality problems and all its products, except the Land Rover, performed poorly in the market. By 2000, BMW had spent over $4.4 billion on Rover since its acquisition in 1994, but did not find any chances of turning it around in the near future. In May 2000, BMW sold Rover to Phoenix Consortium and retained the rights to the MINI brand and the production site at Cowley.

As part of the restructuring plan, BMW refocused its resources in strengthening its position in the premium car segment. Its objective was to establish itself in every sub-segment of the premium market, from entry level to the top. Under the leadership of Helmut Panke, BMW implemented a product offensive strategy, launching new products in rapid succession at each level of the premium automobile segment (See Exhibit 3)

Exhibit 3: BMW product launches(2002-2008E)



Source : Global Insight, USB estimates

As part of the implementation of the market offensive strategy, BMW further expanded its production and sales network worldwide. It currently has 23 production and assembly plants in seven countries, and is now represented in 34 countries via its own sales companies. At present, the dealer organization for the BMW brand comprises more than 3,000 locations around the world. Exhibit 4 shows the BMW group revenues by region

Exhibit 4: BMW Group Revenues by Region(2004)

Region	euro million
Germany	11,961
Rest of Europe	10,574
North America	10,205
United Kingdom	5,249
Asia/Oceania	4,915
Other markets	1,431

Source: BMW Annual Report 2004

3. Product Development and Innovation Process

New product development at BMW is a complex, time-consuming, and expensive undertaking involving the cooperation of thousands of specialists in various areas and disciplines. Three questions are of fundamental significance at BMW:

1. What does the customer want?
2. How quickly is a vehicle developed?
3. How quickly will it be built and delivered to the customer?

Six years before the scheduled introduction, BMW designers begin exploring various alternatives for the car's exterior appearance and interior layout. It is a creative process that not only tries to get the technical elements like aerodynamics, ergonomics, and safety right, but also tries to create an aesthetically excellent and durable design that will still look fresh and be sellable in 12 years. According to Chris Bangle, BMW's chief of design, "We don't make automobiles, which are utilitarian machines you use to get from point A to point B. We make cars, moving works of art that express the driver's love of quality.

BMW viewed design as the link between its past and future. Thus, BMW designers sought to retain a familiar resemblance between all its models. Consistent design features included the dual circular headlights and the "double kidney" grille in

the front of the car. At the same time, internal competition is encouraged in order to create a dynamic exchange of viewpoints. Bangle would typically have five or six teams initially competing for the right to design a new model. Once a design is designated the front-runner at the start of a new model, another team is always assigned the task of creating a counterpoint design.

After evaluating numerous drawings and models, BMW management would give final approval to the overall product concept and style. Product engineers then translated the product concept into a vehicle with the specified functional and aesthetic characteristics. This required designing and specifying the shape, dimensions, and materials of thousands of individual components, and the details of the production process, such as the type of tools that would be used to shape various parts. At BMW, new products typically passed through three to five design cycles.

Over the past ten years, BMW has managed to reduce the pre-production development phase for a series model from approximately 60 to 30 months. In the mid-90s, senior management assembled a reengineering task force to examine how to slash product development time by 50%. The task force identified five key process areas---body, climate control, fuel supply, test engines, and acoustics---that accounted for about 90% of the critical processes in the product development process. To achieve the bold target, three changes would have to take place: 1) increased parallelization of design tasks 2) elimination of some design iterations such as physical prototyping 3) quicker completion of the remaining design iterations.

To reduce the time and cost of development, computer-based systems have become an indispensable tool at BMW. Today all production cars at BMW are first presented, tested and optimized in virtual reality before being shaped “in the metal”. All parts and components of a car are first rendered digitally and can be assembled virtually within seconds before the first prototype sets out on the test track. In vehicle projects, all major product, processes and project data, regularly updated to the latest status, is available at all times to each BMW employees over the Intranet. This significantly facilitates and expedites the simultaneous interaction of designers, engineers, purchasers and suppliers working on one project.

The technical “brain” of the BMW Group is the Research & Innovation Center referred to for short as the “FIZ”. Located in the north of Munich, the FIZ Center

promotes the cooperation of more than 8,500 specialists including engineers, designers, model builders, computer specialists, scientists, production specialists as well as purchasing managers and employees from suppliers. The centralization of car development at BMW through placing everyone in the FIZ building has smoothened the process of communication across different functions and teams---and has led to similar initiatives at other car manufacturers. According to Professor Burkhard Goschel, senior executive for Development and Purchasing, "Successful innovations are increasingly network-based, the result of systematically integrated teamwork in networks that extend beyond the boundaries of one single company. Individual knowledge needs to be linked together in order to generate system knowledge."

In 2004, the BMW Group's R&D expenditure was more than 2.3 billion euro, which represent 5.3% of revenues. All activities throughout research and advanced development are oriented towards so-called strategic innovation areas---sectors in which the company seeks to achieve leadership in technology. Electrics and electronics are now the main driving force behind about 90% of all BMW Group innovation. BMW pioneered the use of microcomputers that constantly adjust ignition timing and fuel injection to make the most efficient use of fuel. It is estimated that as much as 40% of the cost of producing a BMW relates to electronics, of which 15% is software cost. As such, getting the electronics platform up-to-date and stable is critical from a cost and product perspective, as well as innovation and differentiation. BMW is set to benefit from being a leading member of AUTOSAR, a consortium of the principal global OEMs, which will standardize electronic architectures and protocols across the industry.

Given the importance of innovation for competitive advantage and growth, BMW developed a well-defined innovation management system divided into three stages:

1. Innovation Research: this stage involves identification of emerging trends and technologies across the world. Members of the BMW global network, which includes suppliers, universities and research institutions, send regular reports to the company on the latest technology trends and innovation. The reports are stored in the company's central Intranet database and are made available to all BMW associates. The content of those reports is by no means limited to vehicle engineering, and includes innovative ideas from other areas of industry, such as electronics, aerospace or software engineering.

2. Innovation Management: in the second stage, the “innovation councils”, made up of representatives of major departments, evaluate the input from the innovation research stage and assess their suitability for use in vehicle engineering. This cross-functionality enables all major BMW divisions to share information, which was lacking in BMW’s earlier innovation. BMW developed a prioritization process under which the innovation projects were ranked under four categories that included Potential, Must, Top, and Breakthrough Innovations. All innovation projects were consolidated into a single project program after prioritizing and were reviewed annually.

3. Innovation Transfer: this stage was primarily aimed at transferring the innovation project in the pre-development stage to its respective vehicle project managers, who carried on the actual development work. At this stage, the project value was assessed on the basis of cost, time and quality. On the basis of risks and market assessment, risky projects were aborted at this stage. The innovation transfer stage culminated with the transfer of innovation projects to the actual development stage.

BMW attributes its ability to launch new products and models continuously to its innovation management system, which considerably reduced the time between idea generation and final product development. In 2004, BMW received the Best Innovator Award, designating it as the most innovative company in Germany.

4. Marketing and Brand Management

BMW has created a powerful brand that that is distinctive, authentic and consistent. Sporty, performance-oriented cars of a high level of craftsmanship and ingenuity has defined BMW throughout its history. The company has stood unwaveringly on the same brand platform since 1962 when it introduced the 1500 saloon as the start of its “New Class” under the new owner Herbert Quandt. According to Chairman Helmut Panke, “The BMW brand stands for a promise of fascinating individual automobiles. A part of this promise is never build a boring car.” BMW is relentless in driving home a focused brand message and strategy that everyone in the company, top to bottom, understands.

The man most responsible for establishing the BMW brand in the 1960s was Paul Hahnemann. Hahnemann believed products should be born of marketing ideas and everything BMW would do must be rooted in a marketing strategy. He emphasized a niche strategy in both marketing and product development. He saw that Mercedes-Benz was associated with an image of old Germany and that BMW could counter that stodgy image by striving to be a car of the new Germany. He aimed to fill a psychological gap in the market, not just a product gap. Hahnemann summed up the strategy as "unpretentious exclusivity" and promoted the ad slogan "The New Class", which was well-received by car enthusiasts and put the BMW brand on the map.

Ammirati & Puris, which became BMW's first American advertising agency in 1975, created the perennial slogan "The Ultimate Driving Machine". Early advertisements highlighted BMW's performance attributes and pictured BMW models in motion rather than stationary to emphasize the brand's performance. By 1980, BMW was a legitimate worldwide brand that stood for performance and sporty driving. The European version of the ad strategy was "Sheer Driving Pleasure" , that is BMW was about fast, responsive cars for people who relish the sheer pleasure of driving.

In mid-2001, two-thirds of BMW customers were male; the average BMW customer was about 46 years old; median income was $150,000; the majority were well-educated, married and had no children. BMW appeals to people who work hard, play hard, and achieve a lot very early in life. They tend to be very active and engaged in sports as part of their daily regime. According to Panke, "if you want to have the drivers-oriented car, the more active one, you go for the BMW. If you want to be driven, you go for the competitor(Mercedes). But this is good because people have a choice."

BMW calls its model ranges Series, as in 7 Series, 5 Series, and 3 Series. The 5 Series was the first high-volume BMW car and clarified BMW's numeric naming system. "Five" was the series, while the next two numbers reflected the engine size. Letters would be added to represent certain technology. For example, the 535iX would mean the car was equipped with a 3.5-liter engine, all-wheel drive(X), and fuel injection. BMW's alphanumeric system made it so such names are associated with premium brands and all those engine configurations gave the customer a sense that his or her car was practically one of a kind.

BMW established a pattern of expanding a product series through a wide range of engine derivatives and body style. Offering numerous engine derivatives was a sound way to further differentiate BMW from its competitors and establish its credentials as a serious engineering-driven brand. By constant and annual upgrade and freshening of the model series, it could keep sales relatively strong and stable, and kept the motor press interested in the series over the course of a seven-year run.

According to UBS research, the average BMW leaves the factory with optional extras worth 20% of the list price of the vehicle. Consumer spending on options has been increasing by an average of 7% per annum over the last five years. While base specifications are constantly improving, new options are constantly becoming available. Exhibit 5 shows the features that have become standard in the BMW 5 Series from 1994 to 1999 and from 1999 to 2004.

Exhibit 5: BMW 5 Series options that have become standard 1994 and 1999

1994 Extras standard in 1999	1999 Extras standard in 2004
Passenger airbag	Dynamic Stability Control
Electric windows	Velour floormats
Aircon	Fog headlights
Trip computer	Cruise control
Business RDS Radio	Automatic Climate Control
Traction control	6.5in monitor
ABS	16in Alloys
	6 Speed Manual

BMW's product strategy is to be present at the premium end of all significant market segments. The MINI was BMW's first attempt to target the premium part of the small-segment car market. In particular, the company felt that there was a market for a premium vehicle with the ride and handling characteristics of larger BMW vehicles, but with smaller physical dimensions. The MINI was launched in 2001 and continues to perform well, with over 184,000 units sold in 2004. The MINI is hardly a better drive than a Ford Focus or a Volkswagen Golf, but it consistently wins hearts and wallets through its sheer brand character expressed by its design and style. Like the Beetle, the original MINI became a fashion accessory for people who could afford to buy a lot

more car. Given the success of the MINI, BMW decided to introduce the 1 Series which will compete against the Audi A3, Alfa Romeo 147, and high-end VW Golf derivatives.

In the ultra luxury segment, BMW launched the new Rolls-Royce Phantom in 2003. The Phantom is assembled in a new Rolls-Royce factory in Goodwood UK, but most of the components are sourced from BMW in Germany. At the price of 371,200 Euro, almost no car is priced close to the Rolls-Royce Phantom and the order book remains full, with 792 units sold in 2004.

The Rolls-Royce and MINI additions lie at the heart of BMW's premium brand strategy. According to Panke, " We have two brands now that are uniquely suited to BMW's way of doing business. We have a brand in Rolls-Royce that uniquely defines luxury the world over to which we bring our resources, expertise and processes to put it back on the pedestal intact where it belongs. In MINI, we have a brand that is and will continue to be the undisputed premium choice in the small car market---that is a totally unique positioning that no other brand in the world will be able to claim. So, in these two brands, we have characteristics and imagery that no other company can claim or copy. That, to me, is the essence of brand value and brand management."

5. Human Resource Management

The BMW Group had a workforce of 105,972 employees at the end of 2004. To create a framework of values and act as a guide to the behavior of employees, the following guidelines were established for the personnel and social policy of the BMW Group.

1. Working together is characterized by mutual respect and a positive culture of conflict
2. Thinking beyond national and cultural boundaries is an intrinsic quality
3. The performance of and results achieved by our employees are the yardstick for remuneration by the company
4. Team performance is more than the sum of individual contributions
5. Secure and attractive jobs are offered for committed and responsible employees
6. Respect of human rights is a given

7. Social standards for suppliers and business partners are the basis for doing business
8. The BMW Group stands for outstanding benefits for employees and a strong commitment to society

On the basis of these guidelines, the human resource management---in close collaboration with the managers and the various employee representative bodies---creates the conditions and climates that will allow the employees and managers to further develop their willingness to learn, creativity, initiative and commitment.

BMW developed the Associate Model titled “We at BMW” to encourage associates to take on personal responsibility and foster teamwork and a culture of trust. The model represents a vision that BMW has set itself for the future and serves as the basis for the personnel system in the day-to-day working environment. The following six principles applies to all associates, independent of task and hierarchy:

1. Obtain best results due to sustained high performance
2. Accept responsibility for his or her personal contribution to the success of the company
3. Follow and be involved
4. Work together in different work and organizational structures
5. Perceive change as an opportunity, and not as a threat
6. Demonstrate flexibility and continuously further develop oneself

A leadership model was developed as an addition to the associate model to specify a uniform understanding of management at BMW. Leaving behind “hierarchically-oriented thinking”, the leadership model emphasizes high-quality teamwork in changing, flexible structures by means of both specialist leadership and personal leadership. The ten principles of the Leadership Model are as follows:

1. Management is a personal achievement, the adoption of risks, and not just the application of directives, regulations and systems
2. Managers develop “realistic” visions and can fill others with enthusiasm for them
3. Managers set an example and obtain recognition by means of their integrity

and credibility. They set high standards and allow themselves to be measured against these standards

4. Managers place the task in the foreground and not themselves
5. Managers develop objectives, provide for specific agreements on objectives and create space for their associates to act on their own initiative.
6. Managers have good communication skills and create durable working relationships
7. Managers create an environment--despite orientation on costs and results—that conveys the fun of work to the associates
8. Managers lead by trust. They provide security and backing, but also draw consequences if necessary. They accept responsibility and do not make excuses
9. Managers develop efficient teams. They challenge and foster so that both strong and weak associates are led to maximum achievement in the team. Good managers foster in particular those associates that could “overtake” them.
10. Managers are able to act successfully in different cultural environments and to lead multicultural teams.

BMW regularly ranks among the most popular employers in Germany. The company invested 232 million euro(3.2% of total personnel expenditure) in prime and further training for its employees to prepare them for future challenges and ensuring that they have the right skills. BMW offers more than three hundred flexible work time arrangements which extends from flexitime and part-time models to rolling multiple-shift systems and market-oriented working time. Through the use of flexible working hours, BMW is able to organize work more efficiently and provide employees with a greater sense of freedom and responsibility. Apart from the “thrilling product”, employees at BMW are motivated in particular, in their own words, by ongoing personal and professional challenges, by the opportunity to shape the future and the high standard of freedom and flexibility the company has to offer.

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