Team Project

EMGT 520: Management of Engineering and Technology
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Strategic Issues in smart Car Implementation

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Agenda

- History
- Corporate Strategy
- Is smart a success?
- What did they try to do to keep them back on track?
- Future Plan & Strategy for smart in the U.S.
History

- smart is originally a two seater car, which is thought to be an answer for mobility problems.

- It was the second big idea of Nicolas Hayek, who is the co-founder of SWATCH.

- Hayek thought about building a car which was having SWATCH products’ aspects: chic, functional, small.
History

- There was a barrier in front of Hayek: 
  "He did not have any knowledge about car business"

- So, he decided to form a joint venture with a car company

- After being rejected by Renault and Volkswagen, SWATCH formed a joint venture with Mercedes-Benz in 1994: Micro Compact Car AG

- 1994 is also accepted as the birth date of smart (Swatch Mercedes ART)
Milestones in smart History:

1994 – Micro Car Company is established in Switzerland (49% SWATCH, 51% Mercedes Benz)
   – Factory site is chosen in Hambach (France)

1997 – smart engine plant is established in Germany
   – Debut of smart at the IAA in Frankfurt
   – Birth of Smartville

1998 – Production and sales of smart begin
   – Daimler-Benz takes over Chrysler
   – SWATCH leaves the venture
Milestones in Smart History (continued):

1999 – Micro Car Company turns into smart company
   – smart company becomes the first manufacturer to sell cars via Internet
2001 – Launch of smart cabrio
2003 – Launch of second generation smart
2004 – smart is introduced in Canada
2005 – smart company ended the year with a loss
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“(smart) is two-thirds product and one-third philosophy”

-Hans Jürg Schär-
-smart director of sales and marketing -
Concept of “personal mobility”
- Small size for in town trips with few passengers
- Partnerships with public transportation (train, air, bus) for rentals
- Accommodation for longer trips, or trips with more passengers
- Concept of joint ownership
How small is smart?

- 6ft shorter and 1ft. narrower than the new Volkswagen Beetle
- Three can fit in a single parallel parking slot when parked nose to the curb
smart
Corporate Vision

- Environmentally Friendly
  - Molded plastic panels don’t require painting, eliminating the production of paint fume pollution
  - Powder coated steel frame eliminates the use of solvents and wastewater commonly used in steel finishing
  - Most of the car parts are recyclable
  - Original vision of electric or hybrid engine
smart Corporate Vision

smart is chic!

For about $750 body panels can be changed for another color in about an hour!
smart Production

- Production facility located in Hambach, France is called Smartville
- Smartville incorporates “green” philosophy
  - Ample windows to allow use of natural light
  - Rainwater is collected and used in steel tempering process
  - Runoff from the plant is captured and filtered to drinking water quality
  - Scrap plastic panels are recycled and used in non-visible parts
Smartville Concept

- **smart-Plus production model**
  - Largest suppliers are co-located on site and are sole source suppliers
  - On-site suppliers allows smart to maintain an inventory of almost zero
  - Part of the capital investment for the plant is covered by the suppliers
  - Pay on build contracts
Production Method

- Modules are provided by on-site suppliers directly to the assembly line.
- Modules moved by conveyor belt to delivery doors on the assembly line.
- No more than 15 meters between delivery door and assembly line.
- A total of 4.5 hours needed to assemble a complete smart.
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Is smart a success?

- **Most important indicator: units sold**

  ![Graph showing units sold by SMART since 1999](image)

  - Units sold by SMART since 1999
  - Units sold: 0, 50000, 100000, 150000, 200000
Is smart a success?

- The plant in Hambach, France, has a capacity of 200,000 units per year
- That capacity and the expectations were never reached
Is smart a success?

- Smart Roadster was introduced in April 2003
- Smart Forfour was introduced in April 2004

- In 2005 the Mercedes Car Group reacted to smart’s performance with a €311 million realignment plan
- The Roadster / Forfour will not be built anymore
Is smart a success?

- smart’s performance had a strong negative impact on the operational profit of the Mercedes Car Group

- 2004’s operational profit of €1,666 million turned into a loss of €505 million in 2005

- In 2006 smart is still struggling, while the rest of the Mercedes Car Group is very successful
Is smart a success?
Is smart a success?

- Part of the MCG
- Product for the small car market
- Plant in France has a capacity of 200,000 units/year

- Part of the BMW Group
- Product for the small car market
- Plants in the UK have a capacity of 200,000 units/year
Is smart a success?

- Mini has reached its capacity and is planning an expansion to 240,000 units/year
Is smart a success?

- Öko-Trend ranked the smart fortwo / fortwo convertible as one of the environmentally most useful cars in Germany since 2000 and there are still two smart products in the TOP 5 today.

- The Green Vehicle Guide in Australia gave a 5-star-ranking to four vehicles in 2004. Three of them were smart products.
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February 2005, the new COSt-REduction program named “CORE was launched by Mercedes Car Group (MCG)

- strengthen their competitiveness in terms of efficiency, cost and quality
- improved the entire value chain in seven different task areas
- smart car is the one significant area of this program
CORE
Seven task areas

CORE PROJECT SETUP & RESPONSIBILITIES

<table>
<thead>
<tr>
<th>Schmücke</th>
<th>R&amp;D</th>
<th>Sourcing</th>
<th>Production</th>
<th>Marketing/After-Sales</th>
<th>Administration</th>
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<tbody>
<tr>
<td>Dr. Weber</td>
<td>Projects / Modules / Architecture</td>
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<td>Koch</td>
<td>Fixed Costs, Net Assets</td>
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<td>Schmücke</td>
<td>Efficiency Production</td>
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<td>Schmücke</td>
<td>Material Costs</td>
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<td>Dr. Maier</td>
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<td>Revenue Offensive</td>
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<td>Schmücke</td>
<td>Quality / Warranty</td>
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<tr>
<td>Walker</td>
<td>smart</td>
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Continued Execution under the leadership of Executive Team MCG
CORE Program

- To achieve a return on sales of 7% by 2007

- First phase:
  - Implemented the measures designed to achieve a short-term improvement in earnings
  - examined all of their current projects
  - terminated projects that had no potential to make any profit
  - smart roadster and smart SUV was terminated
CORE Program

- Second phase:
  - developed, produced and sell the first-class products of the highest quality under competitive conditions
  - The main lever of SMART car for this CORE program is **smart car turnaround**
    - general restructuring,
    - reduction of fix cost budgets on R&D, production & purchasing, marketing & sales, overhead & IT
# CORE: Structure measure

<table>
<thead>
<tr>
<th>Work module</th>
<th>Main levers</th>
<th># measures</th>
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<tbody>
<tr>
<td>WM1 - Projects</td>
<td>• Review of new vehicle / powertrain projects, model years and freshenings</td>
<td>~ 250</td>
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<td></td>
<td>• Reduction of product complexity and development costs (internal and supplier)</td>
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<td>• Optimization of plant/structure and sales projects</td>
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<td>WM2 - Fixed Costs, Net Assets</td>
<td>• Fixed costs optimization &amp; net asset reduction</td>
<td>~ 1150</td>
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<td>• General Quick wins (Expenses for travel, consulting, training, company cars, ...)</td>
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<td>• Optimization of processes and overhead costs (e.g. HR, QM, F&amp;C, Strategy, MDS, ...)</td>
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<tr>
<td>WM3 - Efficiency Production</td>
<td>• Plant productivity worldwide (reinforced CIP, reduction of non-tact related activities, shift model optimization)</td>
<td>~ 1450</td>
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<td>• Personnel cost (avoidance of extern. recruitment and overtime, flexibility increase, ...)</td>
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<td>WM4 - Material Costs</td>
<td>• Technical efficiency (standardization, specs, substitution, ...)</td>
<td>~ 9650</td>
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<td>• Commercial efficiency (global sourcing, make or buy, ...)</td>
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<td></td>
<td>• Freight &amp; duties (processes, standardization, centralization, ...)</td>
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<td>WM5 - Revenue Offensive</td>
<td>• Volume, mix</td>
<td>~ 300</td>
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<td>• Prices, discounts</td>
<td></td>
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<td></td>
<td>• Patents, LA2/LA3</td>
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<td>WM6 - Quality / Warranty</td>
<td>• Reduction of fault rate</td>
<td>~ 10</td>
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<td></td>
<td>• Reduction of fault elimination times</td>
<td></td>
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<tr>
<td></td>
<td>• Reduction of W&amp;G costs</td>
<td></td>
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<tr>
<td>WM7 - smart</td>
<td>• smart turnaround: general restructuring, reduction of fix cost budgets on research &amp; development, production &amp; purchasing, marketing &amp; sales, overhead &amp; IT</td>
<td>~ 400</td>
</tr>
</tbody>
</table>
The most comprehensive and important mobilization program of year 2005

Enhanced MCG’s efficiency in terms of cost, efficiency and performance

Gained a significant improvement in profitability as the year progressed

However, an operating loss of €505 million for 2005

Caused by the special charges of €1.1 billion on the realignment of the smart business model
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"smart, future"

New Business Plan for smart

(March 31, 2005)

Aim: To put the small-car brand onto a financially sound basis, with the goal of breaking even in 2007
New Business Model

New Business Plan:

- The clear focus on the smart fortwo
- The intention to cancel production of the smart forfour
- The manifestation of smart as a long-term and important part of DaimlerChrysler’s product portfolio
- Workforce reduction
- The complete integration of smart into the Mercedes organization
Future plans

- Follow strictly the business model introduced
- Introduction of the car to the U.S. market in 2008*
- A brand new version of the car launched in April 2007 (fulfilling the requirements for the U.S. market)
- Engines of smart produced by partner Mitsubishi Motors
Future plans

- Integration of the key tasks in development, sales, procurement, after sales and service into Mercedes-Benz
- Presence in movies, museums for a better image
Future plans

- Promote the smart brand through targets which have a common respect among people
  “Fire Department of the City of Detroit was given a smart fortwo in 2005 as a part of this promotion”

- R&D going on in alternative powertrain such as electric, hybrid or compressed natural gas
US Market Entry

- 37th market for smart entry in 2008
- distribution through UnitedAuto Group
- DaimlerChrysler hopes to sell 20,000 smarts a year in the States
- sales mostly in urban centers along the East and West coasts (New York, San Francisco and Seattle)
- smartusa will be occupied with "hard shell" tridion safety cell and ESP
US Market Entry

Drawbacks

Too small for U.S.?
US Market Entry

Drawbacks

**smart**

- may not fit on roads in the U.S., dominated by large cars
- is not designed for the needs of American consumers
  - tend to travel longer distances than Europeans
  - buy more items in larger packages
- price could be too high
- concerns about the safety of this micro-car
- the concept will be a decade old and outdated since it was first introduced in 1998
- image problem (compared to Mini Cooper and Beetle)
US Market Entry Chances and Recommendations

- Overall environment- high gasoline prices, global warming concerns, and waning interest in sport-utility vehicles
- must convince the Americans that this car is worth to own
- more attention should be given on the future adaptations of alternative powertrain for smart
- promote smart's unique and stylish appearance (increasing emphasis on design)
- car could be popular for light errand running for small shops and businesses
US Market Entry Chances and Recommendations

- make use of Mercedes-Benz’s name and engineering legitimacy
- emphasize that Mercedes Car Group is behind this project
Discussion

Do you think that smart will succeed in the U.S. or not?
Conclusion

- Our team think that ...
  
  “smart could be successful in the U.S. Market” if
  
  - It is promoted in the big cities (NY, Seattle, San Francisco)
  - It concentrates more on alternative powertrain

- The car’s possible success in the U.S. market could contribute to the overall success of the company. So “2008, will be important for the future of the car.”
Team 4

Thank you ☺️

reserved for ( ? )

smart

parking only

other cars will be clamped