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Going and Making: Making the True Impact of "Green" in the Auto Industry

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GOING AND MAKING

THE TRUE IMPACT OF “GREEN” IN THE AUTO INDUSTRY

MADISON LOSURE | MARKETING & BUSINESS ADMINISTRATION | 2017
EXECUTIVE SUMMARY

AN INVESTIGATION OF HOW CONSUMER PERCEPTIONS OF THE ENVIRONMENTAL CRISIS TRANSLATE TO BUYING BEHAVIORS AND HOW AUTO COMPANIES REACT TO THESE CONSUMER ATTITUDE SHIFTS.

• Environmental issues
  • Overview of climate change
  • Contribution of auto industry

• Government involvement

• Consumer perceptions
  • Of climate change and air pollution
  • Translation to buying habits

• Response of Auto makers
  • Classifications of Electric Vehicles (EV)
  • Mercedes Benz
    • B-Class and EQ Line
    • Interview with Steve Cannon

• Conclusions

• References
ENVIRONMENTAL ISSUES

THE CONTRIBUTION OF CARS IN CLIMATE CHANGE
CLIMATE CHANGE

- Earth’s average temperature ↑ 1.5°F over the past century
  - ↑ 0.5°F to 8.6°F over the next century
- Northeast – 1895 to 2011 ↑ of 2°F
  - ↑ of 4.5°F to 10°F by 2080
  - 1958 to 2012 70% ↑ rainfall
- Regional consequences include:
  - Sea level rise damage infrastructure
  - Reduced crop yields
  - More intense/frequent heat waves threaten health

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AUTO INDUSTRY’S CONTRIBUTION

- 14% of world’s greenhouse emissions come from transportation
  - Cars create 1/3 of all U.S. air pollution
- CO₂ and CFC’s major byproducts of vehicle production and usage
  - From burning fossil fuels in production and driving
  - Chlorofluorocarbons are synthetic compounds as a byproduct of industrial endeavors
GOVERNMENT IMPACT

• CAFE Standards | Corporate Average Fuel Economy
  • Initially enacted in 1975
  • Response to petitions
    • Civil penalties shift form 2015 to 2019
  • Save 2 Billion barrels of oil and ↓ CO₂ emissions by 1.1 Billion metric tons
    • Model years 2018 to 2029
  • Scrutiny of Trump administration

• CARB | California Air Resources Board
  • Affected model years 2009 to 2016
  • Currently pending sales tax exemptions for electric vehicles, penalties for emissions, stickers for ride sharing

• EVI | Electric Vehicle Imitative
  • Pledge of 14 countries to ↑ amount of electric cars in gov. fleet

• “Trump Card”
  • Withdrawal from Paris Climate Agreement
  • Decrease methane standards
  • Reduce carbon emissions regulations – difficult with Massachusetts vs. EPA in 2005

FEDERAL TAX CREDITS AND STATE BUYING INCENTIVES AND REBATES HELP PURSUADE CONSUMERS TO GO ELECTRIC | CONNECTICUT OFFERS UP TO $3,000 IN REBATES

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CONSUMER PERCEPTIONS
HOW ENVIRONMENTAL BELIEFS TRANSLATE TO BUYING HABITS
“American Risk Perceptions: Is Climate Change Dangerous?”

- 16 page mail-out | 673 Respondents
- Gallup survey - “How much do you personally worry about the greenhouse effect or global warming?”
  - 35% worried “a great deal”
  - 28% worried “a fair amount”
  - 18% worried “only a little”
  - 12% worried “not at all”

5% of respondents stand as naysayers and 9% as alarmists

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“Barriers to widespread adoption of electric vehicles: An analysis of consumer attitudes and perceptions”

- Internet survey | 481 participants | Students, Faculty, and Staff at a Technological Institute
- **Financial:** Extra cost of owning a HEV ranges between $2500 and $14,000 compared to ICE vehicles
  - Spikes in HEV sales when gas prices fluctuate
- **Social:** Purchasers of EV’s are much more likely to identify as environmentally conscious than those who purchase ICE vehicles – flipside of “tree-hugger” portrayal
  - Products are a reflection of self

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**Biggest Concern about EVs**

- Battery range: 33%
- Cost: 27%
- Charging infrastructure: 17%
- Other: 12%
- Reliability: 10%
- Safety: 9%

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**Ranking of EV Attributes**

- Decrease/eliminate the use of petroleum: 40%
- Less maintenance: 15%
- Reduced greenhouse gas emissions: 13%
- Looks/style: 11%
- Comfort: 20%
THE AUTO INDUSTRY
HOW MERCEDES BENZ MAKES SENSE OF SUSTAINABILITY
EV CLASSIFICATIONS

- **HEV | Hybrid Electric Vehicle**
  - Internal combustion engine and electric motor

- **PHEV | Plug-in Hybrid Electric Vehicle**
  - Smaller internal combustion engine and more powerful, rechargeable electric batteries

- **BEV | Battery Electric Vehicle**
  - Derive power exclusively from onboard electrical battery packs that can be charged with a plug
MERCEDES BENZ

"THE BEST OR NOTHING"

• Subsidiary of Daimler
  • “MBUSA”
  • Accounts for about 54% of revenue

• Founded in 1926 by Karl Benz
  • Roots back to 1886

• Current CEO Dieter Zetsche
  • Degree in engineering that permeates outlook

• 2016 financials
  • Current Ratio
    • 1.21
  • Gross Profit Margin
    • 20.61%
MACROECONOMIC IMPACTS

• Global brand value of MBUSA in USD to the right
  • Large jump in 2014 – when they announced B-Class EV
  • Recession 2007 to 2011
    • Overnight frenzy to sell trucks
• Sales of SUV’s increasing due to consumer trends
  • Response to economic growth

So much more to purchase decisions than just conscience and global responsibility
ELECTRIC OFFERINGS

• B-Class
  • Introduced in 2014
  • Adjusting current frameworks to new engine concept
  • Same look, just electric
  • “Econo-box” vibe

• EQ
  • Unveiled at 2016 Paris Auto Show
  • Response to the “Tesla Effect”
    • Electric can be sexy
  • A new cache
    • Completely unique and stand alone
    • Combining desire for larger cars with sleek and innovative electric concept
  • Its own identity
INTERVIEW WITH STEVE CANNON

- CMO of Mercedes Benz USA from 2007 to 2012
- CEO Of Mercedes Benz USA from January 2011 to December 2016
  - Current CEO of AMG group
- Graduated from West Point with a degree in economics
  - 1st Lieutenant Airborne Ranger Infantry

Could also be attributed to the SUV versus small car trend, when it comes down to it a Prius just can’t hold the ten hockey bags and cooler you need to pack on the way to a game.

- Cars are a direct reflection of perceptions of self, consumers will not change their lifestyle because of their conscience – the only way we are going to get people to adopt these technologies is to hit them in their pocketbook, not their conscience.
INTERVIEW WITH STEVE CANNON

• We are attempting to solve the greenhouse gas problem the wrong way in attempting to regulate supply versus demand
  • Success and change in Europe is not because companies are being forced to put out new models and increase MPG’s
    • Large taxes on “gas guzzling” cars and increased rebates and tax deductions on electric
  • What’s the solution?
    • Two front approach – auto makers keep innovating, but put higher federal taxes on gasoline
    • Can pay for new infrastructure projects while consumers are nudges toward sustainability
      • Gas prices the most impactful factor in switching
CONCLUSIONS

• Perceptions of the environment have insignificant impact on industry-wide buying behavior
  • Economic factors
  • SUV sales and trends

• Perceptions of self are directly reflected by purchase decisions
  • Especially auto
  • Straying from “econo-box” to sleeker and sexier models
    • Tesla effect

• Presents a conundrum
  • People want to buy electric for two conflicting reasons:
    1. To save money
    2. To feel luxurious and express lifestyle

• Further research on perceptions and sales by income level


