Title: SURVIVAL OF GENERAL MOTOR CORP UNDER THE GLOBAL ECONOMICAL CRISIS

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Abstract

The struggle of the American manufacturing industry to survive under the global economical recession has been the main headline for most of the business news nowadays. The government of the United States is, however, giving an extra attention to the American Automotive industry due to its micro impact towards the national economy, with more than one million jobs on the stake. The automotive industry has, however, received governmental stimulus packages to avoid its inevitable bankruptcy, but their overall stability remains under risk. The main objective of this study is to conduct an analysis of the main internal and external factors that restrained General Motors Corp. (GM), to achieve financial stability. The study includes literature reviews, benchmarking of better performing companies, and performing interviews with field experts, all to come up with a list of suggested courses of actions that would give in return a better overall performance for the American automotive industry in general, and for General Motors Corp. (GM) in specific.

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I. Introduction:

In the United States, brothers Charles and Frank Duryea founded the Duryea Motor Wagon Company in 1893, becoming the first American automobile manufacturing company [1]. GM, one of the leading companies, has gone through a long way of prosperity and became the market leader for 77 years until it became number two after its Japanese competitor Toyota Motor Corp. dominated the market in 2008. The global Automobile industry played a great role in the US economy, it provided employment to one in seven people, either directly or indirectly, and it was hailed as the 'industry of industries' by the Management Specialist, Peter Drucker during early 1910s. The total global output of car industry touched 64.6 million vehicles in 2005 with the Big Three losing more and more of its market share in its own land from its foreign competitors, Toyota, Honda, and Nissan, thereby setting the ground for the emergence of New Six.

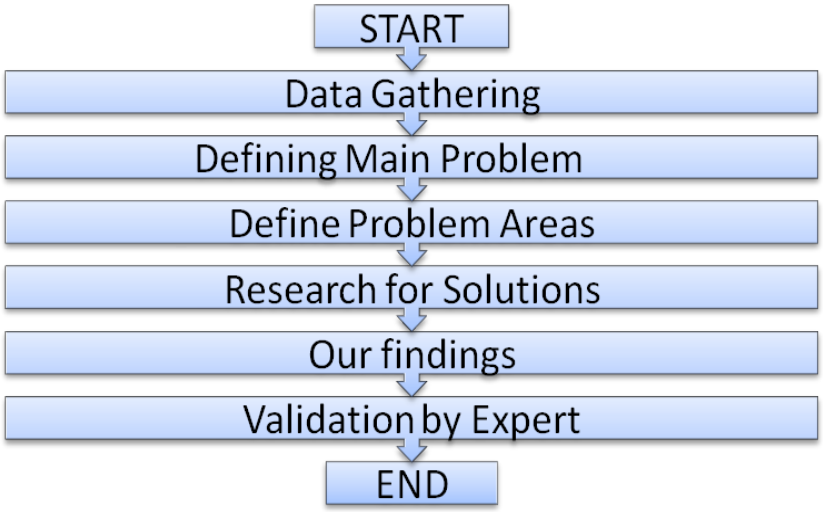
A. Problem Definition

Today, the American automotive industry, represented by GM, Chrysler and Ford, are facing economical recessions and instability which almost led to its bankruptcy in late 2008. Even after the reception of multi-billion dollar governmental bailout supports, these companies are barely surviving to stand at their own feet. A combination of organizational obstacles in addition to the global economy downturn, these companies are facing difficulties like never before. The main Objective of this study is to examine the business model of American auto industry and inference the strategies that flourished the industry; derive the miscalculations that lead to the current prevailing crisis in the industry and to conduct an analysis of the main internal and external factors that restrained the big three to achieve financial stability and suggest the course of action that would give better overall performance for GM.

B. Methodology

To conduct the main plan of the analysis were first drawn, based on Qualitative Research & Evaluation Methods used by Michael Quinn Patton and as shown below:

To define the series of potential areas affecting the overall performance of the General



Motors Corp the team referred a series of literature reviews, academic publications, and kept updated to the latest news of developments in this company. The potential areas concerned with this study were defined and classified under two main categories as shown below. Each area mentioned will get its own share of analysis in the following sections.

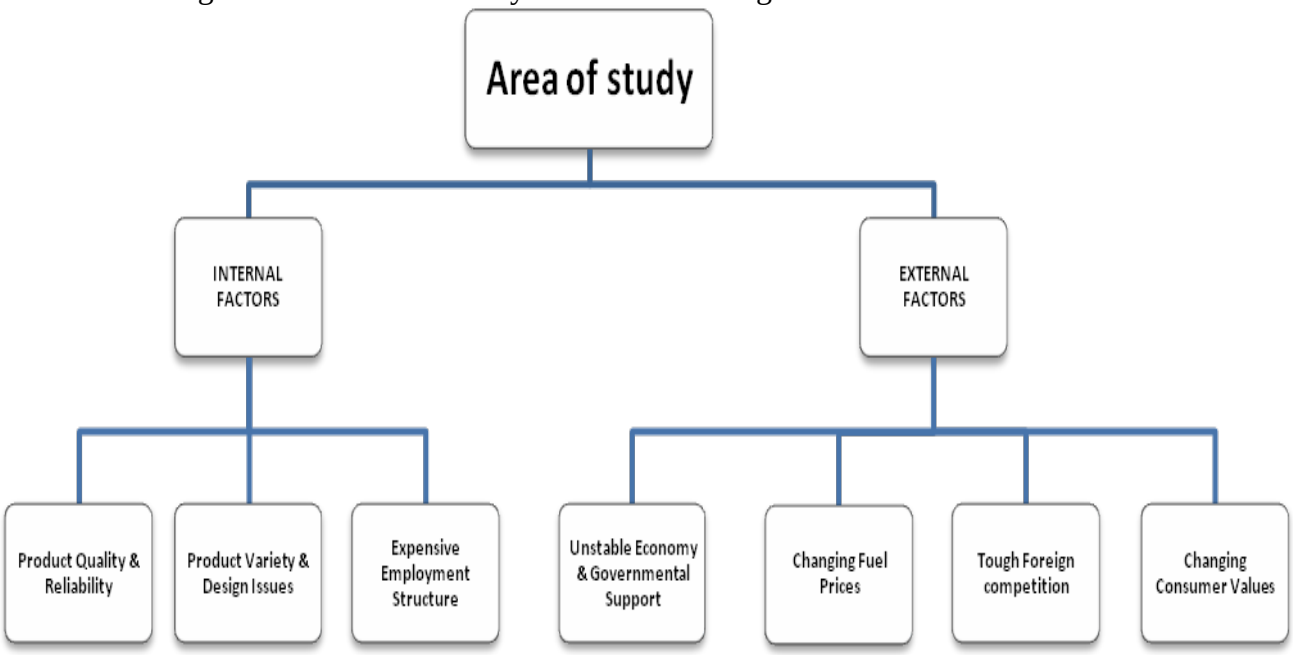


Figure: Showing the potential areas affecting the overall performance of the General Motors Corp. covered in this report.

II. Analysis – Internal Factors:

A. GM's Product Quality and Reliability Analysis

In this section we will analyze the product quality and reliability of GM automobiles and figure out if GM is currently producing vehicles at the same level of quality as its Japanese competitors and what could be the possible reasons refraining them from achieving that desirable level of quality and will benchmarking Hyundai's marketing strategy of 10 year warranty and buy-back option give them the expected outcomes.

Through the correct implementation of Deming's techniques, the Japanese implementers produced a high level of quality products, with reduced waste and increased productivity. A number of Japanese manufacturers applied his techniques and achieved an unprecedented level of quality in their products. One of the leading companies is today's number one car manufacturer, Toyota [1].

Comparison of Quality Control of Toyota and GM:

Japanese auto-industry adopted quality measurements, in addition to other contentious improvements techniques. These were integrated with the corporate culture and environment, resulting today's well known reputation of stability and superiority in the quality of Japanese

products. In contrast the American auto-industry was finding tough to compete with the quality of their automobiles, a customer was willing to wait for a Japanese part over an already available American made part. A study by Dr Deming inferred that 85% of the problems that prevented in the development of better cars in the US were caused by the poor management issues [2].

Nowadays, many of the car manufacturers have been giving extra attention to survey reports performed by reputable organizations, especially in this difficult time of economical recession where reputation plays a critical role in defining a company's fate. One of the leading organizations in providing survey reports is the J. D. Power and associates, a business unit owned by the McGraw Hill Company. Two types of reports which are concerned with quality measurements are presented annually [3].

The first one is the initial quality study, a report that accumulates the number of complaints of new car owners within the first 90 days of ownership, which reflects the total number of defectives in every 100 car (See appendix 1,2 and 3 for J.D. Power's initial quality reports for 2006,2007 and 2008 respectively). The 2006 results show Porsche topping the list, followed by Lexus. Three out of eight of GM brands are above the industry average, alongside with Chrysler. Ford is few points short to exceed the industry average. In the 2007 report, all of the GM brands went below the industry average, and Chrysler followed the same flunk. In the other hand, Mercury and ford went above the industry average positioning in number 8 and 10 respectively. And in the 2008 survey report, 4 of GM's brands were able to get above the industry average wit Cadillac ranked the highest from other GM brands, with Pontiac joining the list for the first time, and with Ford and Mercury maintaining their positions above the industry average.

From these diagrams, it can be concluded that there might be inconsistencies in quality levels as reflected by the fluctuation of GM brands. In the other hand, Ford was able to maintain above the industry level, but it is insufficient to predict further performance. It can also be noticed that Toyota and Honda always stayed above the industry average for three consequent years, and surprisingly, Hyundai, the once known as a “crappy” car manufacturer was able to maintain above the industry average for three years in a row. Not only that, but it succeeded in placing in third right after Porsche and Lexus in 2006.

Responding to these data, GM spokesman says that the difference between top and middle performers is statistically irrelevant. He explained further that the difference between Toyota and Chevrolet is 17 problems per 100 cars. The spokesman may have a point there, but consumers will still never believe that GM is better than Toyota unless they see GM topping Toyota consistently in the J. D. Power report. And in this difficult time, the word of mouth plays a great impact to a company's overall sales. The previous report may only be useful to jot the number of manufacturing defectives, but ineffective to determine the reliability of the vehicles, which also a measurement of the vehicle's quality for the long run. For this purpose, J. D. Power and associates provided another survey report, known as the Vehicle Dependability Study (VDS), which accumulates complaints from car owners within the duration of three years of ownership, starting with 2005 models (See appendix 4). The results shows no much differences with Toyota, Honda, Ford, and one GM brand (Cadillac) above the industry average, with the rest 7 brands of GM below the average. This diagram may confirm GM's poor performance and low quality products along the years. But it is worthy to note that although the unsatisfying performance of GM, the company has witnessed drastic chains of improvements for its products in the past years [3].

Reasons Preventing GM to Attain Desirable Quality Levels:

For GM, the struggle to stay on its feet is still an ongoing process. Oppressed by its Japanese competitors, GM fights hard to change people's perception of the negative view of GM's low quality products. In 2006, it boldly extended the warranty of its cars to 5 years or 100,000 miles to be in line with its foreign competitors. But even that may not be enough to change the long built perception of people favoring foreign cars. Extending the warranty a bit further would probably send the message, which is to extend it to 10 years as Korean manufacturing did. Korean manufacturers such as Hyundai and KIA were successful in turning the consumer's negative image into a positive one using this strategy, and so will GM. The only risk associated with this strategy is whether GM products can really tolerate the 10 years duration; otherwise, short period revenues will be overwhelmed by long period hefty warranty bills. The answer to this question lies not in the middle and top managers, but only in the scientists and engineers of GM, which leads to the next point.

Another problem preventing GM to be fully responsive to manufacturing flaws and defectives is the disintegration between its production and business units. Hubris, or excessive pride, as described in Crisis Management – Master the Skills to prevent Disasters, which restrains executive managers from admitting the lack of quality issues. They were convinced that GM's standards were up-to-date and were as good as the competitors; after all, GM was the world's number one manufacturer. This lack of attention gave the Asian competitors to gain more market share on the expense of GM's [4].

Conclusion Based on our Findings:

As a conclusion to this aspect of quality, it can be inferred that GM is paying too much attention to this J. D. Power Survey. Instead, they should certainly be concerned about the quality and reliability of their products after the warranty expires, very similar to what Hyundai is doing.

Expert's Opinion:

- GM's executives have long ignored the quality issues with their products. On the contrary, with constant improvement in quality by foreign competitors, an immense gap has emerged between the quality of American, Japanese and European Companies. GM would have been in a much better standing if efforts were made to merge this gap, but with prevailing financial situation it seems difficult to be fixed.
- GM can change customer perception by delivering better quality at lower cost with minimum turnaround time.

B. Design Issues:

In this section we try to evaluate the alignment between General Motors automobile design and the prevailing market demands. Also in context of customer requirements we try to infer what were the miss on GM's end that proved to be a win on Toyota's end? We will also try to infer how the recent change in consumer point of view of an automobile has changed the overall perception of US Auto industry.

GM lacks a flexible business structure that delivers customer-oriented product designs with quick turnaround time, contributing to the internal factors leading to lower market shares. Before the oil crisis of 1973, the main stream of U.S. auto market did not face the issue of fuel

efficiency. During the 1950s and 1960s, GM's share of market ballooned to more than 50 percent of its price after becoming the market leader in auto styling among the entire car industry. The classic models, such as Chevrolet Corvette and Cadillac deVille, became the symbol of American fashion. In another word, design helped GM to occupy the auto market before 1970s.

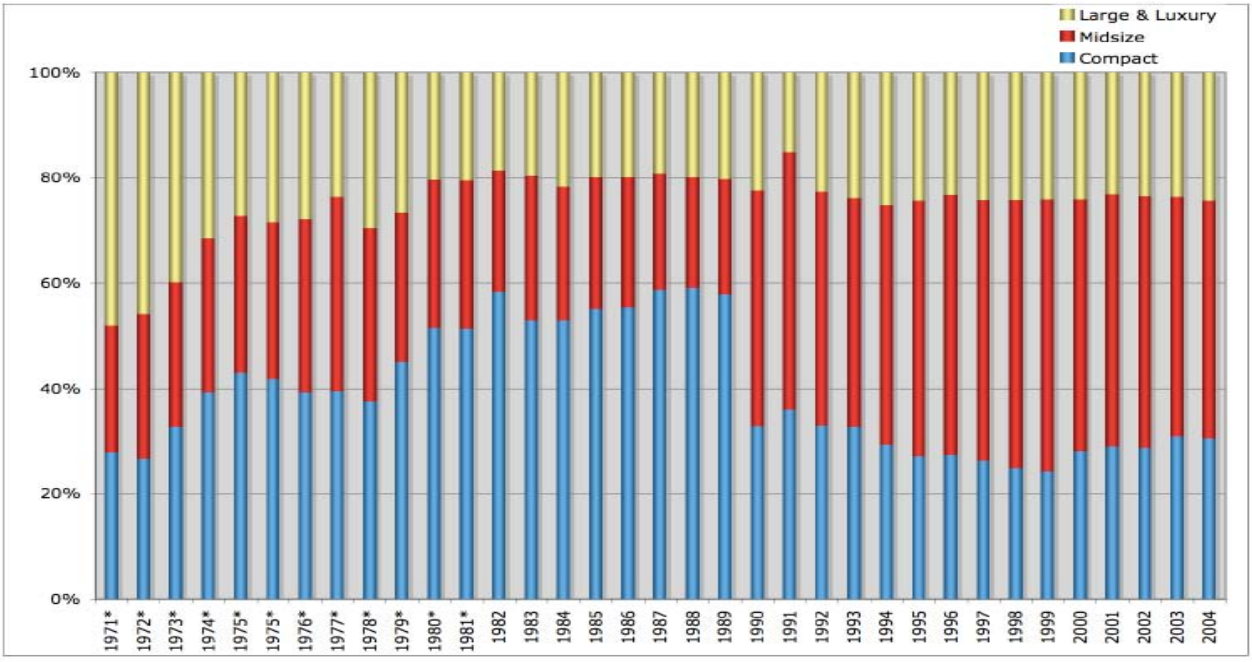


Diagram: Showing Percent of sales in the U.S. by market segmentation 1971 to 2004 [5]

GM and the Rising Demand for Compact Cars:

The first and second oil crisis, occurred in 1973 and 1979 respectively, had its major impacts on changing the consumers' preferences towards designs of products provided by the U.S. auto market. The sales volume of compact cars has significantly increased as depicted in the adjoined diagram [5].

Meanwhile, it provided a good opportunity for GM's foreigner competitors, especially from Japan, to enter the U.S. Auto market, even though GM was protected by the U.S. government's preventing mass import policy, the market share of GM started to decline as a reason for GM's slow reaction on providing compact cars as per the consumers' demands.

While GM first started the small cars' investment in 1970, Japanese small cars had already been sold in the Japanese auto market for ten years [5]. The fuel-efficient and experienced design brought customers' reliability in the market. (See the table) That also brought Japanese automakers having a better growth rate in the small car market and impacted GM during 1970s and 1980s [6].

Company name	Average annual unit sales	Unit sales growth rate	Average predicted reliability*
GM	1,505,671	0.029	1.81
Ford	1,063,240	0.006	2.54
Chrysler	684,969	0.048	2.63
Toyota	500,984	0.081	4.97
Nissan	397,092	0.061	4.28
Honda	429,848	0.242	4.63
Average	763,634	0.078	3.48

* 5 – Much better than average
4 – Better than average
3 – Average
2 – Worse than average
1 – Much worse than average
Source: Ward's automotive yearbook; Consumer reports, buying guide.

Table: Showing growth rate and reliability during 1970-1989 [6]

After earning considerable profit from the U.S. compact car market, Japanese automakers stepped into the mid-size cars and began to build assembly plants and design centers in the U.S, which directly challenged the GM's main passenger auto market. The Japanese competitors had two advantages in design that seriously affected GM's market share. These advantages are the new concepts of car designing and faster product development process.

The first impact from those overseas competitors is that Japanese auto makers had product designed around consumers demand. GM has been a car manufacturer for several decades, but their main concept of the design has only focused on the products, not the consumers [7]. In another word, its design concentrated on maximizing factory sales and overlooked its customers. Compared to their Japanese competitor, the need of their customers is one of their considerations in their design process (See appendix 5). For example, Toyota uses their consumers' data to start their design and adopt the consumers' opinions as design targets into their products (See appendix 6). Through this process it would provide a car, which has higher customers' satisfaction.

The other impact is the faster product development process. GM's Japanese competitors have the advantage in cutting off the design time. For example, Toyota is the most efficient auto maker in designing new models; most new designs are completed in a year [8], which is a third faster than GM's design cycle. Thus, the ability of bring new innovation to the market rapidly become a critical issue for GM in the competition of market share.

The design issues of focusing on customers and efficiently providing new cars to adopt the market are how the GM's competitors take over its market position. It is also one of the reasons that spread the perceptive of "GM can't design vehicles that Americans want to pay *Toyota money* for," [9]. In short, misalignment of product styling and features with current market trends acted as a catalyst to worsen their market position.

Conclusion Based on our Findings:

GM's executives failed to acknowledge the changes in consumer demand and they relied heavily upon govt. policy preventing mass import to maintain its US market share while its foreign competitors gained edge by aligning their product designs closely with consumer demand.

Expert's Opinion:

- The general perception about GM automobiles is "gas guzzlers"; GM needs strong innovation along with smart propagation to make its foray into the current trends prevailing in the market.
- They need to develop some small, trendy, fresh American brands.

GM's Lack of Brand Identity and Over-Brand Issues

Lately, GM has eight brands; each has its own models. Those models seem to provide the product variety to the market, but actually they will compete against each other because of their similarity. For example, in 2008, GM had four models for its midsize sedans, which are Chevy Malibu, Buick Lacrosse, Pontiac G6, and Saturn Aura. Even Chevy Malibu and G6 were on the number four and five in the selling number, they still have hard time to compete with their main competitors, such as Honda Accord and the Toyota Camry. For both of their Japanese competitors, they only offer single model in a specific market segment [10]. To compare the sales between Camry and GM's four mid-size sedan models, the single models outsold GM's four models. The reason being, their competitors' single model strategy provides strong advantages on less design cost, obvious brand identity, and brand promotions.

Rank	Make	Model	2008 Sale(Unit)
1	Toyota	Camry	107002
2	Honda	Accord	87802
3	Nissan	Altima	76407
4	Pontiac	G6	45951
5	Chevrolet	Malibu	41247
6	Ford	Fusion	40050
7	Dodge	Avenger	25246
8	Hyundai	Sonata	24341
9	Chrysler	Sebring	23147
10	Volkswagen	Jetta	21941

Table: Showing sales for the 2008 first quarter in mid size sedan segment

Furthermore, the over brand issue also caused GM the lack of brand identity. Compared to Toyota's three brands in the U.S., each of its brands built its own value to target different market segmentation: Scion for youth, Lexus for luxury and Toyota for its traditional market segmentation. Each brand stands for particular demand from different kind of consumers, which can be shown in their selling price. However, GM's eight brands make its similar models compete with each other. For instance, to contrast the official price from those four midsize sedans in GM, between G6, Malibu, and Aura, they almost focus on the same market segmentation, the basic price are from $21,160 to $23,325. As a result, the growth of each one adversely affected the other three brands.

Conclusions Based on our Findings:

Apart from the competition faced by foreign automakers, their own brands were competing with themselves, creating a tough market environment for itself. GM's decision to reduce its product line to fewer than 4 brands in 2012 might help the company to improve its overall performance. To conclude, GM needs reorganization in its approach to cater to consumer demand, fast changing market trends can only be supported by a flexible business structure, which may not be very easy due to its (GM) steep employment structure, discussed in detail in the following section.

Expert's Opinion:

- Few focused and concentrated brands will help reduce overhead burden and will optimize the utilization of resources.
- Brands targeting a particular market segment (for example, more stylish and fuel efficient cars for younger generation) will help creating healthy market for GM.

C. Expensive Employment Structure

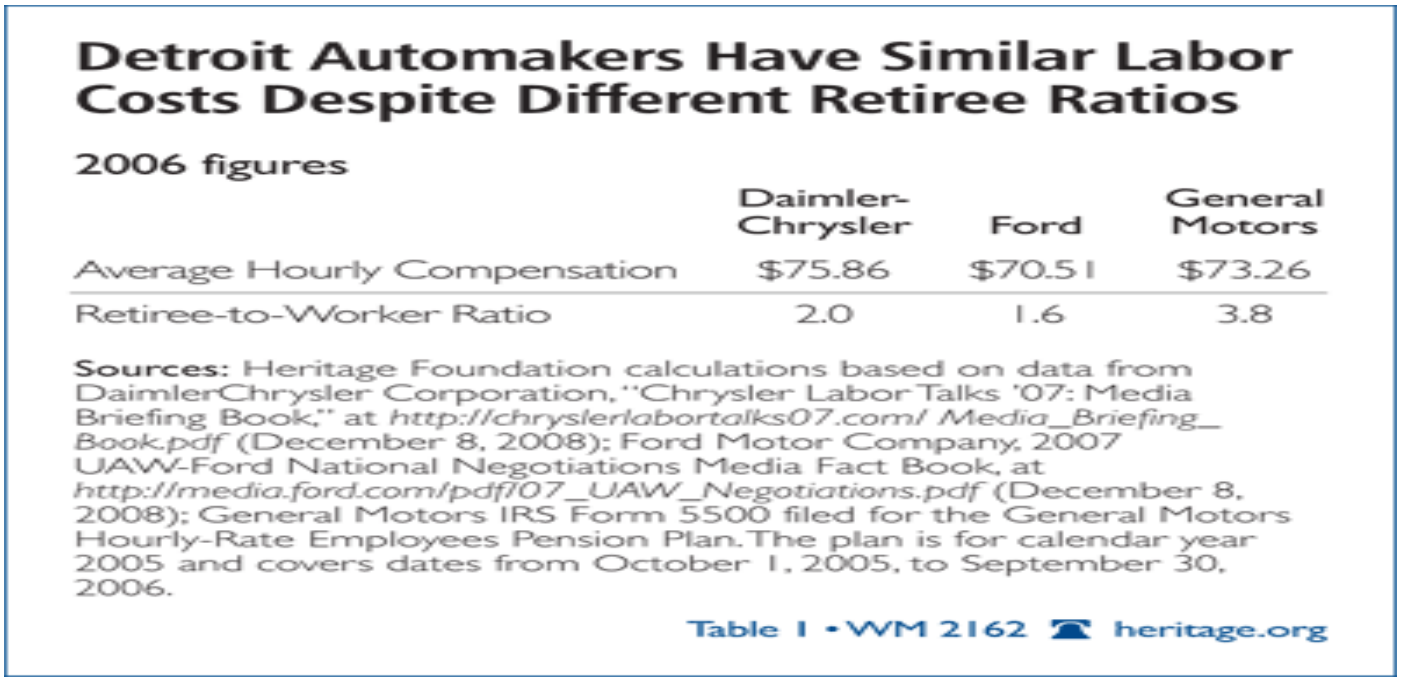
In this section we would be analyzing the factors contributing to complex and rigid business structure of GM that decreases its flexibility to respond to foreign competition. Complicating GM's ability to respond to varying market condition is its expensive employment structure. The company's levels of unionization and expensive pension and health care benefits packages have been well documented. These structures limit the company's ability to trim (or add) workers. When the workforce is reduced, the company uses incentive packages and buyouts, both of which decrease flexibility but are a necessity due to unionization.

Hourly Wages and Benefits

The UAW-negotiated wage was roughly $28 an hour in 2007, which was much higher than its foreign name-plate factories in US.

Dan Ikenson of the Cato Institute argued that "total compensation is the cost of labor to the companies, and for GM it is about $73 per hour and for Toyota about $48. The average cost differential between the Big Three and all the foreign nameplate companies is about $30 per hour. That's huge." His computation includes all labor-related costs (e.g., wages, healthcare, and pension--for both current workers and retirees.)[11]

"NY Times" article states that G.M. workers "are paid about $10 to $20 an hour more than people who do the same job building cars in the United States for foreign makers like Toyota. At G.M., as of 2007, the average worker was paid about $70 an hour, including health care and pension costs." [12]



Detroit Automakers Have Similar Labor Costs Despite Different Retiree Ratios

2006 figures

	Daimler-Chrysler	Ford	General Motors
Average Hourly Compensation	$75.86	$70.51	$73.26
Retiree-to-Worker Ratio	2.0	1.6	3.8

Sources: Heritage Foundation calculations based on data from DaimlerChrysler Corporation, "Chrysler Labor Talks '07: Media Briefing Book," at *http://chryslerlabortalks07.com/ Media_Briefing_Book.pdf* (December 8, 2008); Ford Motor Company, 2007 UAW-Ford National Negotiations Media Fact Book, at *http://media.ford.com/pdf/07_UAW_Negotiations.pdf* (December 8, 2008); General Motors IRS Form 5500 filed for the General Motors Hourly-Rate Employees Pension Plan. The plan is for calendar year 2005 and covers dates from October 1, 2005, to September 30, 2006.

Table 1 • WM 2162 ☎ heritage.org

Average annual wages for production workers at the Big Three were $67,480 in 2007 and $81,940 for skilled workers. In Canada, GM's 2008 average labor costs (including both wages and benefits) were $69 per hour, and Toyota's at $48 per hour, with similar productivity [13]. According to the Heritage Foundation, the ratio of retirees to workers for GM is; there were 3.8 retirees or dependents in 2006, while its American counter parts, Chrysler and Ford were at 2.0 and 1.6 respectively[14]. This means the legacy labor cost burden for GM is significantly greater than its competitors.

Former Massachusetts Governor Mitt Romney wrote that the burden of a large retiree population receiving pension and health care benefits adds an average of $2,000 to the cost of each GM automobile. This places GM at a significant competitive disadvantage relative to the transplants [15]. While the employees of Asian-owned companies in U.S. are mainly non-unionized; the Big Three are bound by contracts with the UAW. According to the UAW, labor cost represented 8.4% of the total cost of manufacturing and selling an automobile in 2006. "The vast majority of the costs of producing a vehicle and transporting it to a dealership and preparing it for sale – including design, engineering, marketing, raw materials, executive compensation and other costs – are not related to direct or indirect manufacturing labor." [16]

Wages and Labor Costs

How much are labor costs in relation to the total price of a new vehicle?

The total labor cost of a new vehicle produced in the United States is about $2,400[1] which includes direct, indirect and salaried labor for engines, stamping and assembly at the automakers' plants. This represents 8.4 percent of the typical $28,451[2] price of a new vehicle in

[1] *UAW Research Department, based on hours-per-vehicle data from the 2007 Harbour Report and labor costs as reported in the companies' 10-Ks*

[2] *National Automobile Dealers Association[16]*

2006. The vast majority of the costs of producing a vehicle and transporting it to a dealership and preparing it for sale – including design, engineering, marketing, raw materials, executive compensation and other costs – are not related to direct or indirect manufacturing labor [16].

Based on the recent available data, the $73-an-hour figure comes from the car companies themselves. As part of their public relations strategy during labor negotiations, the companies put out various charts and reports explaining what they paid their workers. Wall Street analysts have done similar calculations. The calculations show, accurately enough, that for every hour a unionized worker puts in, GM spends about $73 on compensation. So the number isn't made up. But it is the combination of three very different categories. The first category is simply cash payments, which is what many people imagine when they hear the word "compensation." It includes wages, overtime and vacation pay, and comes to about $40 an hour. Detroit's automakers labor cost fall in the range of $70 - $77 [17].

The second category is fringe benefits, like health insurance and pensions. These benefits have real value, even if they don't show up on a weekly paycheck. At GM, the benefits amount to $15 an hour or so. Adding the two together, we get the true hourly compensation of GM's unionized work force: roughly $55 an hour. It's a little more than twice as much as the typical American worker makes, benefits included. The more relevant comparison, though, is probably to Honda's or Toyota's (non-unionized) workers. They make in the neighborhood of $45 an hour, and most of the gap stems from their less generous benefits.

The third category is the cost of benefits for retirees. These are essentially fixed costs that have no relation to how many vehicles the companies make. But they are a real cost, so the companies add them into the mix — dividing those costs by the total hours of the current work force, to get a figure of $15 or so — and end up at roughly $70 an hour. The crucial point, though, is this $15 isn't mainly a reflection of how generous the retiree benefits are. It's a reflection of how many retirees there are. GM built up a huge pool of retirees long before Honda and Toyota opened plants in this country (See appendix 7).

Healthcare Costs and U.S. Competitiveness

1) Competitive Disadvantage:

The United States spent 16 percent of its GDP in 2007 on health care, higher than any other developed nation. The nonpartisan Congressional Budget Office (CBO) estimates that number will rise to 25 percent by 2025 without changes to federal law. Employer-funded coverage is the structural mainstay of the U.S. health insurance system. According the U.S. Bureau of Labor Statistics, about 71 percent of private employees in the United States had access to employer-sponsored health plans in 2006. A November 2008 Kaiser Foundation report notes that access to employer-sponsored health insurance has been on the decline among low-income workers, and health premiums for workers have risen 114 percent in the last decade. Small businesses are less likely than large employers to be able to provide health insurance as a benefit. At 12 percent, health care is the most expensive benefit paid by U.S. employers, according to the U.S. Chamber of Commerce.

These ballooning dollar figures place a heavy burden on companies doing business in the United States and can put them at a significant competitive disadvantage in the international marketplace. For large multinational corporations, footing health care costs presents a massive expense. General Motors Corp covers more than 1.1 million employees and former employees, and the company says it spent roughly $5.6 billion on health care expenses in 2006. GM says health care costs add between $1,500 and $2,000 to the sticker price of every automobile it

makes. Health benefits for unionized auto workers became a central issue derailing the 2008 congressional push to provide a financial bailout to GM and its ailing Detroit rival, Chrysler.

2) Rival Health Care Models:

Elsewhere in the world, health care systems are much less reliant on private sector support and much less expensive. For example, the U.S. system costs 83 percent more per capita than the Canadian system, where public funds collected through taxes pay for up to 70 percent of health care coverage. A number of East Asian systems also enjoy high quality of care for a much lower cost. An article in Cambridge University's Journal of Social Policy looks at what it calls the *remarkable* performance of health care systems in Hong Kong, Malaysia, and Singapore, where the authors argue the legacy of British colonialism has encouraged a strong state role in the health care system.

Taiwan's system is commonly singled out as a model for cost-effectiveness. Taiwanese are assessed around twenty dollars a month for full health coverage. In contrast, Americans pay roughly five hundred dollars per month, according to data in a report by McKinsey [18]. To conclude, savings from the Taiwan's National Health Insurance (or NHI) system largely offset the incremental cost of covering.

Conclusions Based on our Findings:

The expensive employment structure of GM includes healthcare and retiree benefits is the major cost overhead to the company that decreases that decreases its profit margins. This costly employment structure reduces the company's liquidity and flexibility to invest in R&D.

Like GM, Japanese automakers were dealing with health care issues when they opened up factories in the U.S. For example, Toyota's health care costs for U.S. employees have doubled in the last five years. Unlike GM; however, to deal with health care, Toyota is building a $9 million dollar clinic to serve the employees of one of their factories.

Expert's Opinion:

- The first law of business is make money and then to invest. GM needs to make money by lowering its cost of production so that profit margins are increased. Increased profit margins and innovative and optimum utilization of funds is the key to the company's survival.
- GM should sought to solve the problem with innovative thinking resulting in more robust bottom-line.

III. Analysis – External Factors:

A. The Unstable Economy and Governmental Support

In this section we would discuss how the unstable economy adversely effected GM sales and stability. Also, we would analyze if GM-Chrysler merger (proposed solution by some experts) will help either company. In this section we will also evaluate if govt. bailouts would be effective.

Economy Downturns

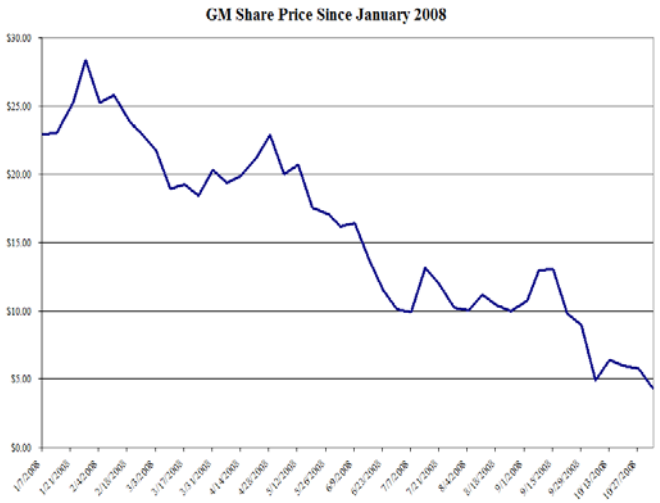
The external factor to affect the sustainability of GM is the most recent economic collapse which has hurt all auto makers. The financial crisis played a role, as GM was unable to obtain credit to buy Chrysler. Sales fell further as consumer credit tightened and it became much

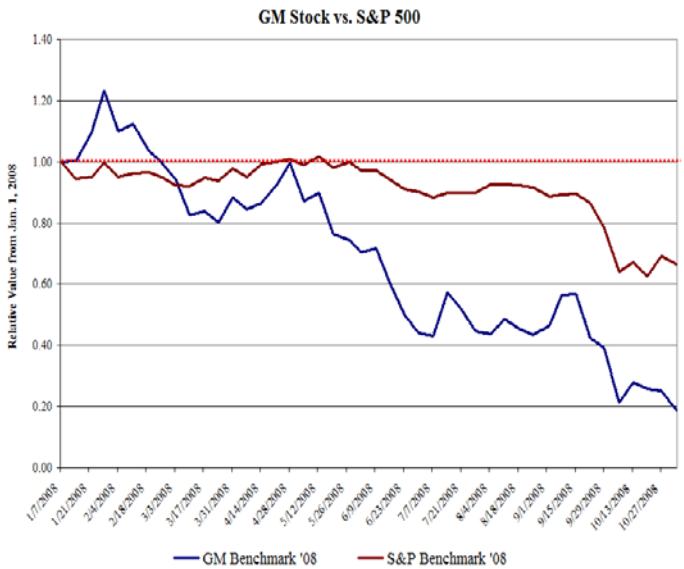
harder for people with average or poor credit to obtain a bank loan to buy a car. During 2007, nearly 2 million new U.S. cars were purchased with funds from home equity loans. Such funding was considerably less available in 2008 [19].

The annual capacity of the industry is 17 million cars; sales in 2008 dropped to an annual rate of only 10 million vehicles made in the U.S. and Canada. All the automakers and their vast supplier network account for 2.3% of the U.S. economic output, down from 3.1% in 2006 and as much as 5% in the 1990s. Some 20% of the entire national manufacturing sector is still tied to the automobile industry. The transplants can make a profit when sales are at least 12 million; the Big Three when sales are at least 15 million [20].

All auto sales in the US are down by 30% in October. GM has been particularly hurt, its sales have plunged 45%. In addition, stock prices fell as shareholders worried about bankruptcy; GM's shares fell below 1946 levels.

Even as the S&P 500 has lost over 30% of its value since January, GM's stock has lost over 80% of its value. This has reduced its market cap to minuscule levels and prompted talk of a merger with the similarly-ailing Chrysler. As the global credit crisis batters markets around the world, a struggling company like General Motors sees all of its issues magnified. For example, the current recession will dampen auto sales for all companies, making it even harder for GM to generate the cash it needs to avoid bankruptcy. At the same time, cost pressures will force GM to cut spending in critical areas like research and development. New ideas and designs the company desperately needs will be more difficult to cultivate. Other options, like mergers and strategic alliances, will be less effective. These difficult economic conditions increase the pressure on struggling companies like GM. Its lack of flexibility and dire financial circumstances has led them to what may be their last line of defense against bankruptcy – a government bailout [21]. The crisis has affected auto companies around





the world, with large sales decreases experienced by all. The financial shock has spread across the globe and sales are down everywhere. In effect, GM is bleeding from several wounds. As the largest of the Big Three, GM has been the focus of the media spotlight. But Ford and Chrysler are facing similar problems. The struggling automaker finds it necessary to drastically cut expenses, because rising gas prices and a weak U.S. economy have adversely impacted its auto sales, particularly sales of GM pickup trucks and sport utility vehicles (SUVs). The world's largest automaker is not the only

automaker feeling the crunch of rising gas prices and the reciprocal shrinking of gas-guzzler sales. Both automakers depend on sales of pickup trucks and SUVs to compete against smaller, more fuel-efficient imports. The weak U.S. economy has compounded their cash flow problems from rising gas prices, by adversely impacting sales of other GM and Ford vehicles too. GM anticipates that U.S. auto sales will continue to shrink industry wide in 2008, to their lowest levels in over a decade. The automaker expects the trend to continue into 2009 [22].

Governmental Support

GM's problems have been building for many years. It has not made money on its core North American auto operations since 2004, and since that time it has run up $72 billion in net losses, including the latest period of 2008 when sales hit the bottom due to tight credit markets and high fuel prices.

In addition, the company said that in the first half of 2009, its "estimated liquidity will fall significantly short" of what it needs to continue operating. It said the only thing that would save it would be a significant improvement in economic and automotive industry conditions, help from the federal government, better access to capital markets or some combination of those options.

In November 2008, Robert Schulz, S&P (Standard & Poor, a credit rating company) senior auto credit analyst said "I think we should be worried [about a bankruptcy] right now". "We were worried before and the relative level of worry is now heightened." So, S&P cut GM's credit rating deeper into junk bond status to a rating of CCC+, which means "Currently vulnerable and dependent on favorable business, financial and economic conditions to meet financial commitments". In addition, Shelly Lombard, senior high yield analyst at Gimme Credit, an independent research firm, estimates that GM will need to get between $10 billion and $15 billion in federal assistance in order to avoid bankruptcy by 2010 and that the chance of bankruptcy without help is probably 80% to 90%. However, Both Schulz and Lombard also said that not even a federal bailout may be able to save either GM in the long-term considering the problems facing the industry [23].

Furthermore, in December 2008, Cramer on GM, Stock Picks, says "GM needs $4 billion in government loans this month and a total of $12 billion by late March of 2009 to keep operating. The troubled automaker plans to slash its numbers of workers, vehicle brands and plants by 2012."

Altogether, the auto giant is seeking up to $18 billion in government funding including a $6 billion line of credit in case market conditions worsen. In addition, the company would focus on four brands (Chevrolet, GMC, Buick, and Cadillac). By 2012, the plan calls for 20,000 to 30,000 fewer workers, a reduction of nine facilities and 1,750 fewer dealers [24].

Conclusion Based on our Findings:

Evaluation of GM’s business condition reveals GM's problems have been building for many years. GM’s heavy weight business structure cannot sustain growth. Therefore, GM's request from the U.S. government will barely help the company surviving in the crisis. A bailout or merger will only provide liquidity for operational costs. Only a major re-organization can help GM get back on track of long-term growth.

Expert’s Opinion:

- The merger would be a short-term resolution that would increase the liquidity but this will not help the company to sustain growth over a long period of time.

- Direct Governmental funding won't be of much help. GM has to regain consumer confidence to regain stability.

B. Foreign Competition

In this section we would state the major advantages in the business model of successful foreign competitors that helped them gain an edge over GM.

Overview:

Many of GM's internal problems stem from an explosion of brands and models which led to increase in expenses. When GM was a dominant company across the world it could afford to have brand differentiation. However, as more efficient challengers like Toyota and Hyundai pushed prices lower, GM was left supporting duplicative design teams and production facilities. To make matters worse, GM's designs became more outdated.

While U.S. manufacturers in many sectors have used practices from the Toyota Production System (TPS) to boost performance substantially since the mid-'80s, they have used it improperly. Instead of taking up TPS as an overarching philosophy, they have used it slowly as a toolbox. These companies' leaders must revive their strategies to imitate Toyota's in order to compete, which means reversing the popular notion that lean and other TPS-derived concepts are tools to be used selectively to achieve departmental milestones.

Toyota's Strategies:

Toyota's manufacturing effectiveness was cited many years in a row by the Harbour Report. Compared with the Big Three, Toyota was described as the most productive measured in terms of the hours required for vehicle assembly. Toyota's per-vehicle time: 27.9 hours compared with GM at 37 hours. The percentage decrease (2003 versus 2004) came to 5.5% for Toyota, 2.5% at General Motors. Analysts report that GM's quality and manufacturing efficiency has risen since its NUMMI joint venture started as evidenced by GM's latest wins in the J.D. Powers product quality ratings.

"Why is it that the TPS tools of lean, agile, TQM, TPM, re-engineering, just-in-time, cellular/continuous workflow and so on never seem to really pay off big (aside from Toyota)?" asks Michael Paris, president of Hinsdale, Ill.-based Paris: Consulting. His response: "Unless TPS is everywhere in an organization, it is nowhere. Too often managers pushing for performance improvements have a limited vision and scope. They fail to approach the executive team that has responsibility for the entire enterprise and authority over it."[25] Paris suggests that an enterprise philosophy is obligatory to gain competitive benefits from TPS or lean manufacturing:

First, planning must be thorough. The quest may start with managing production inventories, but it should extend to the factory walls and far beyond. Indeed the goals and objectives of each functional group within the enterprise must be aligned with all the others if progress is to be made. Also, managements must understand that the change touches every aspect of the enterprise. There should be no units with their own metrics, agendas and turf. Every business unit is a line unit and must behave and be measured that way [25].

Toyota's Success with Suppliers:

One area where U.S.-based companies and Toyota have diverged is supplier relations. While certainly there are some shining examples of supplier relations among "lean" manufacturers other than Toyota, these have been overshadowed by across-the-board mandates at large OEMs (Original Equipment Manufacturers) that push pressure for cost-cutting disproportionately onto suppliers' shoulders. This move to make their companies more competitive has actually made them less. Toyota's dominance proves this. "The process needs low cost and quality, and Toyota is a role model example of how to use cost and quality to get on the playing field," Matheson says. "Instead of building and maintaining collaborative supplier strategies, Toyota's U.S. competitors seem to be on a different, riskier path," notes Matheson. "The danger is that innovation suffers when supplier relationships hinge only on cost-cutting

demand. Toyota recognizes that fulfilling the enterprise potential of TPS requires a substantial cultural shift toward collaboration and continuous improvement, both internally and externally. The changes have to permeate senior management thinking."

Harbour says today's vertical integration at Toyota would have been typical of the practice at GM 30 years ago. But at the same time Toyota has demonstrated a commitment to strengthening its suppliers. While suppliers Visteon and Delphi were separated from Ford and GM, Toyota continues its commitment of close collaboration with suppliers, including increasing its equity position in suppliers such as Denso.

Toyota's supplier collaboration targets value in both vehicle pre-launch and post-launch situations, says Erlanger, Ky.-based Jamie Bonini, general manager, supplier commodity engineering for Toyota. He says pre-production collaboration -- two to three years before the launch of a vehicle -- centers on identifying and solving potential problems to the mutual benefit of both parties.

Supplier collaboration provides substantial value in post-launch scenarios as there is more value to be gained by collaborating with a supplier by efforts to strengthen a supplier and concentrating on future win-win situations. For the packaging of a new part there are careful considerations and interfacing with supplier process, product shipment and the moving of the part into production at a Toyota plant.

Keeping R&D Close to Production:

The Location of R&D facilities in North America also plays into maintaining and strengthening the supplier relationships. The recent addition of the Calty Design Research Studio at the Ann Arbor, Mich., Technical Center is in step with Toyota's increasing manufacturing presence in North America, explains Ann Arbor-based Bruce Brownlee, senior executive at Toyota's external affairs division. The overall corporate goal: to serve the North American market with product designed, made and sold by North Americans. The philosophy also satisfies the need for close collaboration with the North American manufacturing facilities, Brownlee says.

The product that most closely demonstrates that goal is the all-American Toyota Avalon. Introduced in the 1995 model year as a replacement for the Cressida, the Avalon represents the research efforts of Toyota's Ann Arbor, Mich., Technical Center with help from support facilities in California, Arizona and Massachusetts (near MIT in Boston). At Ann Arbor the primary activities includes such things as vehicle parts and material design, regulatory affairs, and emission certification. California's Calty Design Research (Newport Beach) does the styling. Toyota's total North American R&D employment: about 750 total, of which about 600 are in Ann Arbor. Brownlee says the total engineering staff numbers 550 with about 200 support associates. “A lot of what we do is work with our suppliers in a 'hands-on' mode. They have offices in our center to facilitate the value engineering of parts and components. Working together, we reduce part complexity, improve performance and evolve less expensive parts of ever-higher quality. Collaboration, not confrontation is our mode of operation."

To maximize the value of supplier input, collaboration begins at the earliest stages of the design process, says Randy Stephens, executive program manager for development and operations. For Toyota, the Avalon represents the value made possible when TPS-enhanced business processes optimize a product for a geographically specific market, Stephens says. Value-based organizational philosophies such as TPS increase the failure risk for those following conventional cost-based strategies, says Matheson. "Base your management decisions on a long-term philosophy, even at the expense of short-term financial goals." [25]

Conclusion Based on our Findings:

Innovation is the keyword to a profit-making business model in current market conditions. Toyota’s competitive edge cannot be contingent by one particular strategy, but application of innovation to each business aspect. A firm and unyielding business structure of GM cannot sustain long-term growth in a market with ever changing consumer demands.

C. Changing Consumer Values

The Big Three automakers in the 1950s were an oligopoly that dominated the American car market. American consumers paid for the powerful engines, the heavy steel bodies with their chrome trim, the fins and the multiple head and tail lights, and drove the big machines into the dawn of smog.

During the 1960's high prices, high profits, and high wages characterized the industry. In the beginning of the 1970s the foreign competition began to challenge the U.S. automakers. Smaller and cheaper, more fuel-efficient imported German Volkswagens and Japanese Datsuns and Toyotas began to appear on the market. The environmental movement was also born around the same time, and Americans, gasping for breath, began to ask questions about the autos' impact on the earth. Already in 1965 Ralph Nader had written *Unsafe at Any Speed*, raising questions about the auto industry's commitment to consumer safety. Still, the U.S. autogopoly went on as before, producing its big, heavy, gas-guzzling highway death traps, ignoring issues of fuel-efficiency, the environment, and consumer safety, while taking us into the twilight of fresh air [26].

Global warming and related concerns regarding carbon emissions have heightened sensitivity to gas mileage standards and environmental protection worldwide. The US automakers were always trying to sell large, inefficient gas-guzzlers even though fewer and fewer people were buying them. Some of the countries like Japan required autos to achieve 45 miles per US gallon (5.2 L/100 km; 54 mpg) of gasoline and China required 35 mpg_{-US} (6.7 L/100 km; 42 mpg). The European Union required 52 mpg_{-US} (4.5 L/100 km; 62 mpg) by 2012. [27][28]

Market research revealed that such a broad assumption was off-base—customers had widely varying and personalized expectations when it came to such order fulfillment attributes as lead time, delivery reliability, and the importance of getting exactly the desired vehicle configuration. What customers really valued was that they got the car they wanted, at the desired time and desired price. Many customers would wait for a certain amount of time and some even would pay premiums to get their preferred vehicle. Most customers' ideal waiting time was between one to eight weeks. So what was needed was a differentiated supply chain response for each customer.

The Big Three received funding for a $25 billion government loan during October 2008 to help them re-tool their factories to meet new fuel-efficiency standards of at least 35 mpg_{-US} (6.7 L/100 km; 42 mpg) by 2020. The $25 billion in loans from the Department of Energy to the auto manufacturers were actually authorized by Congress early this year but not funded. Automakers could use these loans to "equip or establish facilities to produce 'advanced technology vehicles' that would meet certain emissions and fuel economy standards; component suppliers could borrow funds to retool or build facilities to produce parts for such vehicles."

Conclusion Based on our Findings:

The market orients itself around consumer demands. GM's rigid business model cannot sustain long-term growth in ever changing market conditions. Only a lightweight, innovative and consumer loyal business structure can survive in the long-term

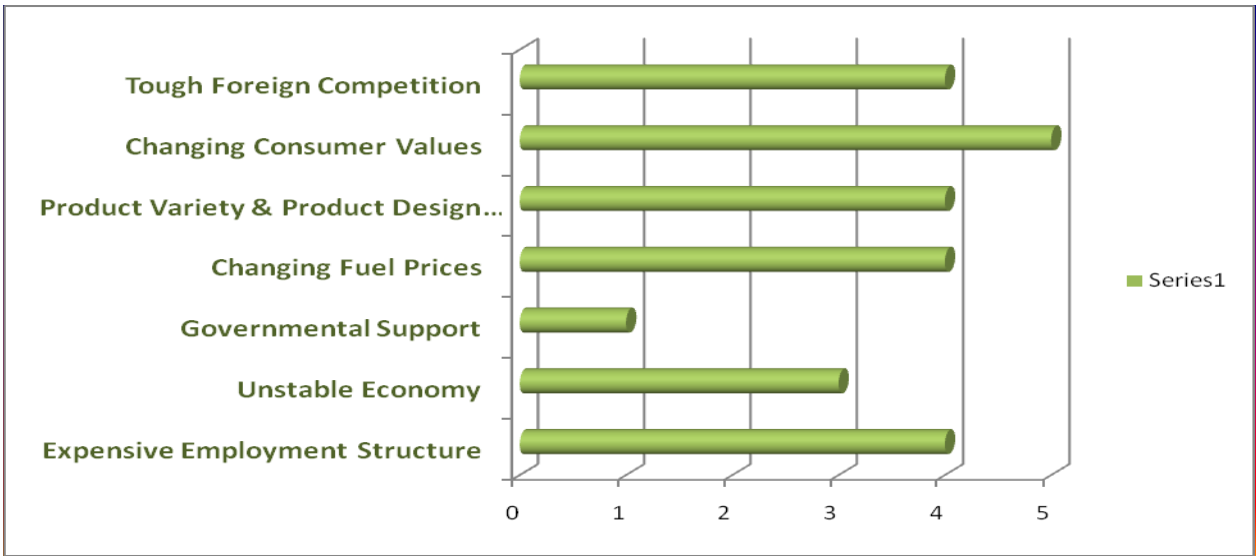
Expert's Opinion:

- GM also lags behind in the manufacturing of eco-friendly cars. It certainly needs improvement on this front.

- As it is said, “Buying car means buying confidence”. For long GM has not aligned its products with consumer requirements. To gain back the lost confidence of customers, GM needs to come up with more stylish, better quality cars and fuel efficient cars.

IV. Expert's Opinion on Factors Affecting the GM downslide

The engineering project director, Randy Debotoli, Daimler Trucks, North America was interviewed and asked to give his opinion on the effect of internal and external factors on the performance of the GM (based on a 5-point scale). The following graph, clearly explains the same. So according to the expert, the major factors affecting GM, is the changing consumer value with highest rating of 5, followed by second highest position taken by expensive employment structure, tough foreign competition, product variety & product design and changing fuel prices, at the rating of 4. The effect of unstable economy has been given a rating of 3. And finally, the governmental support has the least effect with the rating of 1.



V. Recommendations:

After reviewing each area of concern, the following recommendations were concluded after refinement and validation by the expert (see appendix 8 for the list of questions and answers):

- GM needs to lower its cost of production so that profit margins are increased.
- Reduction in number of brands under GM will help reduce overhead burden and will help the company to improve its overall performance.
- Streamlined product-line definition under each brand, and each brand targeting specific consumer market segment will help the company re-establish a loyal consumer base.
- GM has to come-up with a more flexible business model to reduce the cost of held-up inventory and increase profit margins.

- GM has to regain consumer confidence to regain stability.
- GM should change its image of “gas guzzlers” automobiles; GM needs strong innovation to make its foray into the current trend of fuel-efficient vehicles. They need to develop some small, trendy, fresh American brands.
- GM also lags behind in the manufacturing of eco-friendly cars. It certainly needs improvement on this front.
- GM can change customer perception by delivering better quality at lower cost.
- GM-Chrysler merger or direct govt. funding would only be a short-term resolution, to sustain growth over a long period of time the American-auto industry should under-go restructuring.

VI. Conclusion:

The reasons for GM’s sudden fall down are myriad in number and complexity. Some are internal decisions (lackluster products and money-losing incentives) and others are external (fuel prices and foreign competition). Combined, they have created an untenable situation in which General Motors is no longer profitable, competitive, or primed for future growth.

Many of GM’s internal problems stem from a proliferation of brands and models which increase expenses. When GM was a dominant company across the world it could afford to have brand differentiation. However, as more efficient challengers like Toyota and Hyundai pushed prices lower, GM was left supporting duplicative design teams and production facilities. To make matters worse, GM’s designs became more outdated. Customer confusion was high – what differentiated Chevrolet from Pontiac? Why should an individual choose one brand over the other, when they both offered vehicles with similar price points and features? Even worse, consumers began to jilt both brands in favor of more reliable and lower priced imports.

Complicating GM’s ability to respond to foreign competition is its expensive employment structure. The company’s levels of unionization and expensive pension and health care benefits packages have been well documented. These structures limit the company’s ability to trim (or add) workers. When the workforce is reduced, the company uses incentive packages and buyouts, both of which decrease flexibility but are a necessity due to unionization.

To summarize, “constant innovation in product-line and processes” is the key to profit-making business model. General Motors relied heavily on its established brand name and lost the market share to its foreign-competitors who delivered innovative products in alignment with consumer demands.

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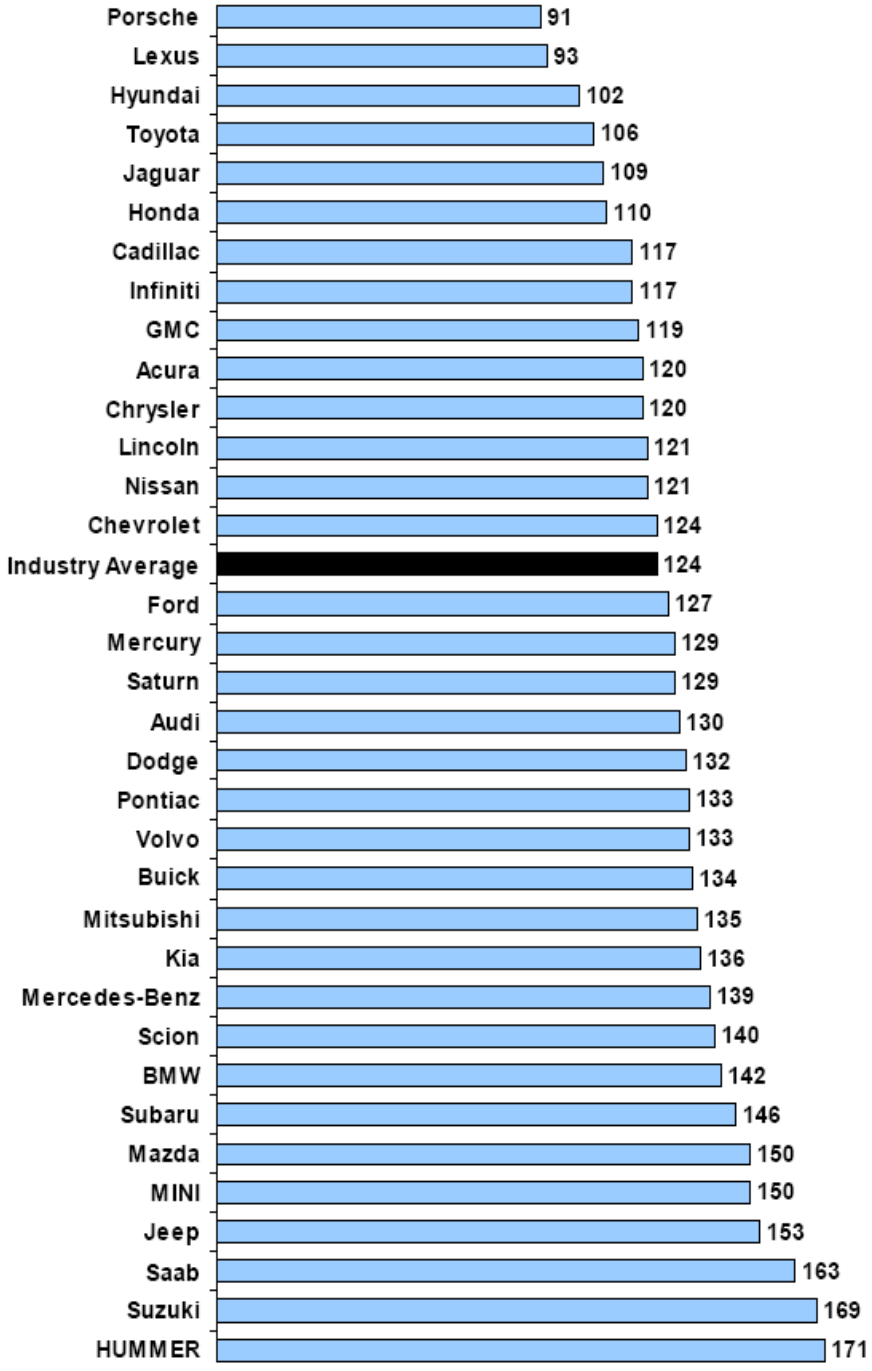
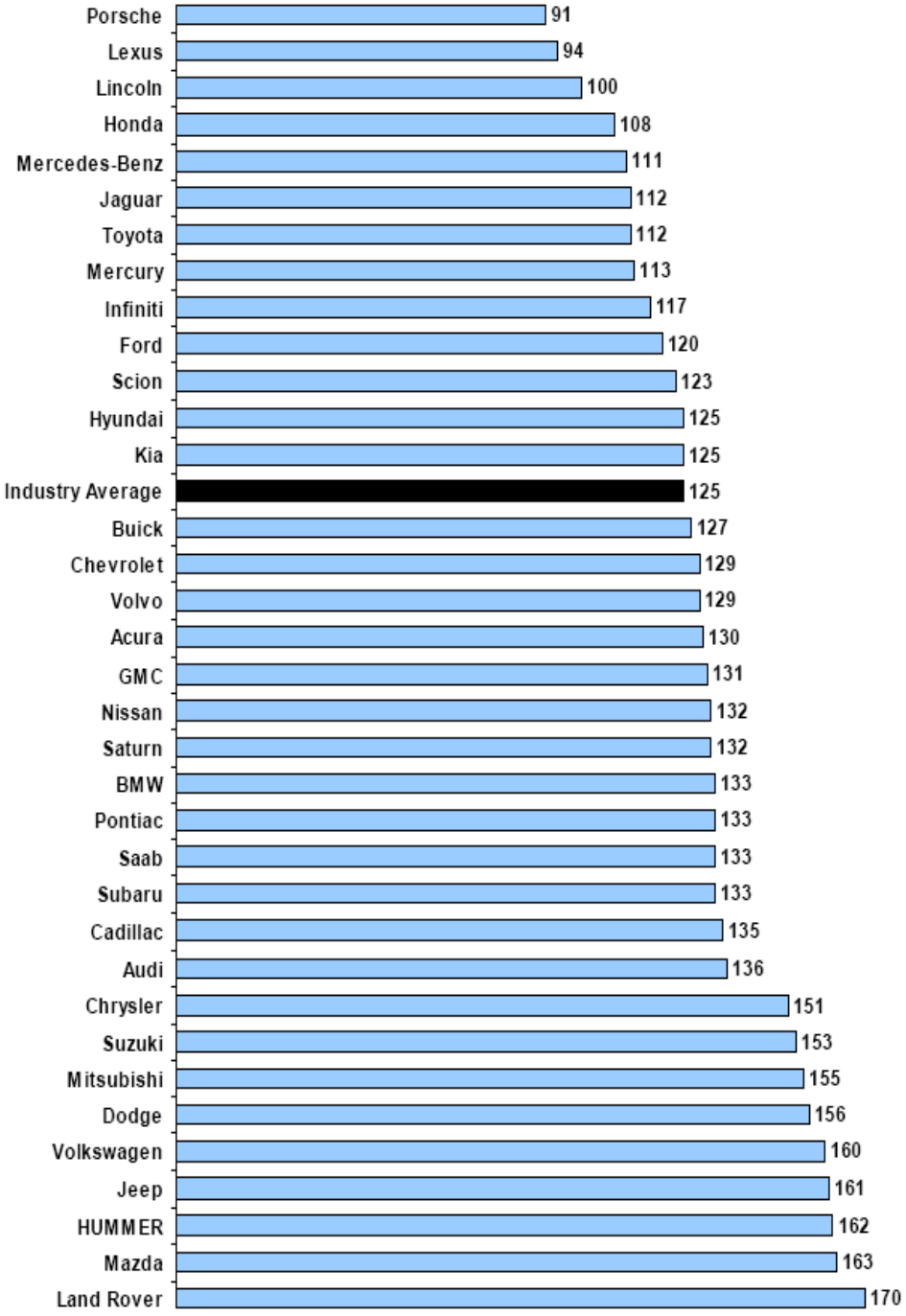
VIII. Appendixes:

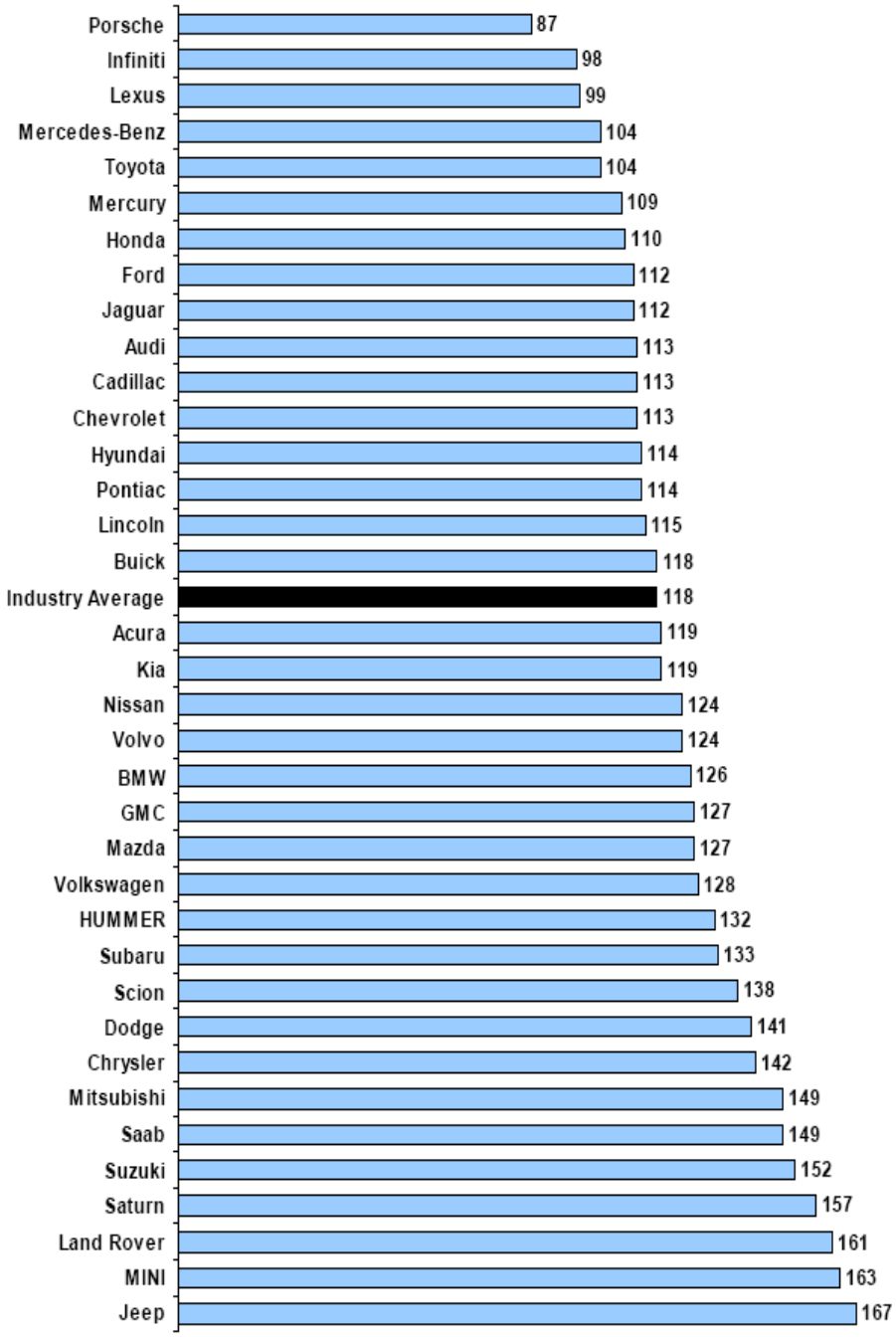
Appendix 1: Showing J. D. Power's initial quality results of the automotive industry for 2006 [3].



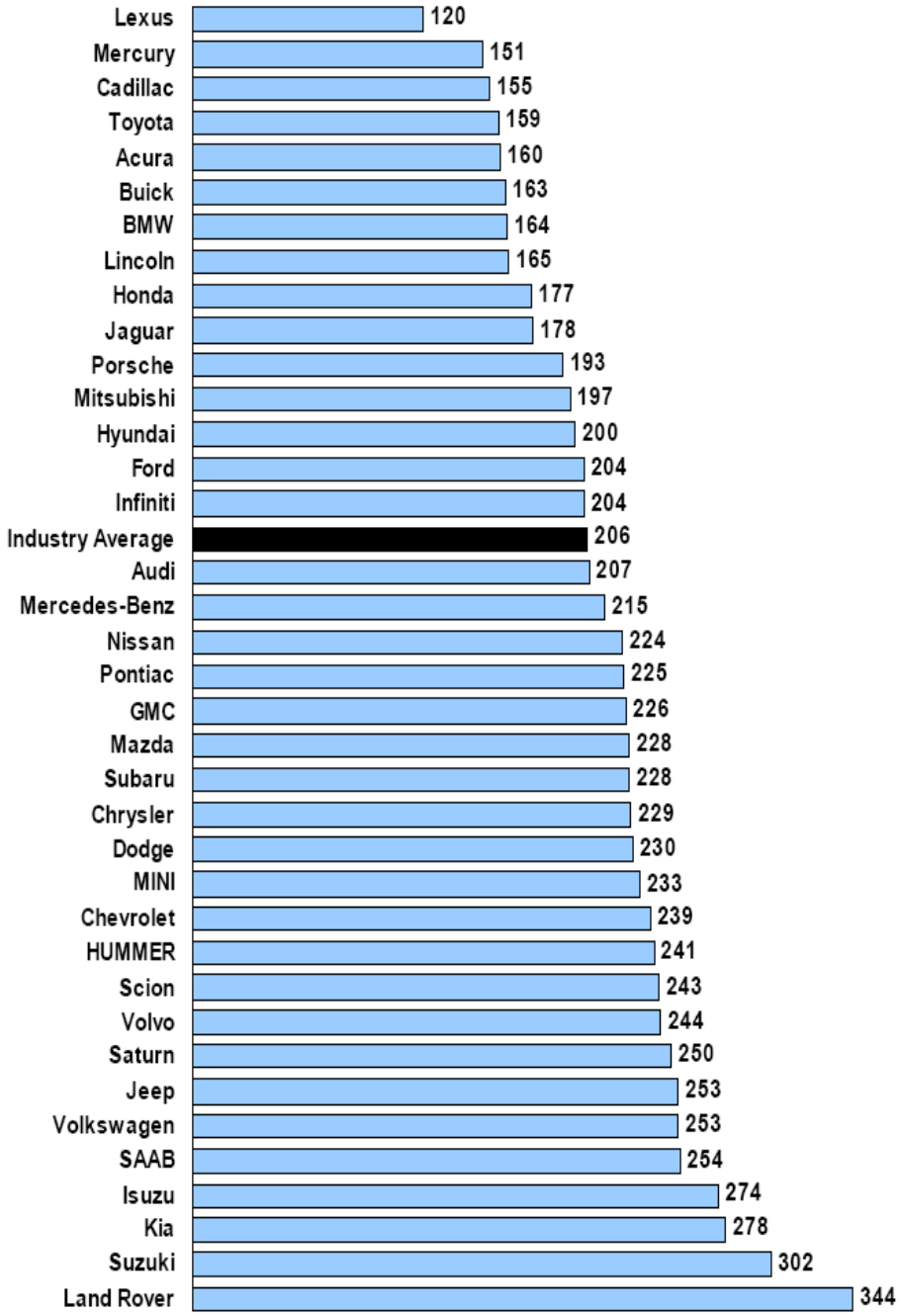
Appendix 2: Showing J. D. Power's initial quality results of the automotive industry for 2007 [3].



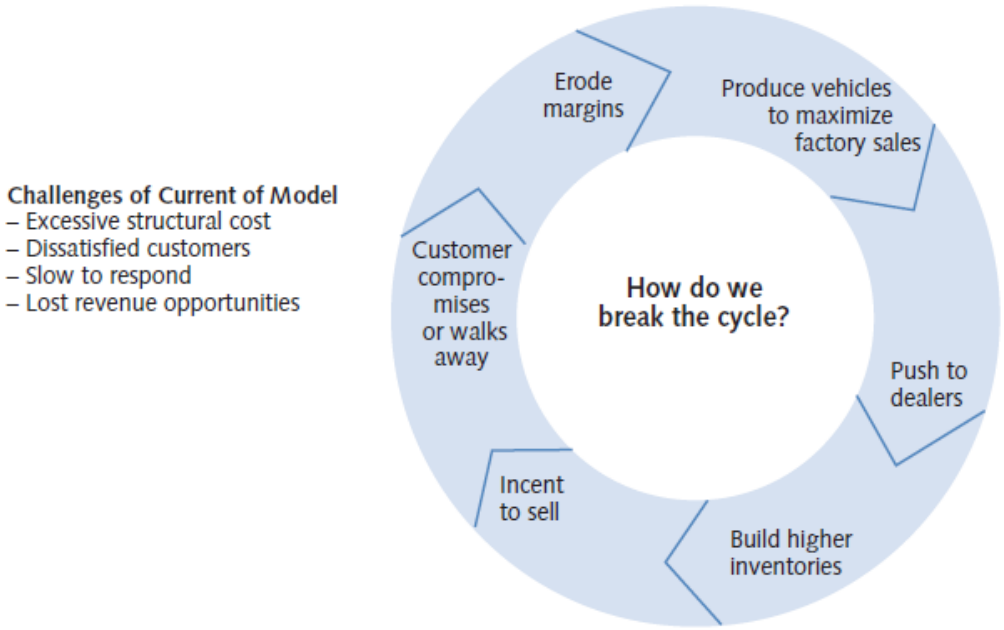
Appendix 3: Showing J. D. Power's initial quality results of the automotive industry for 2008 [3].



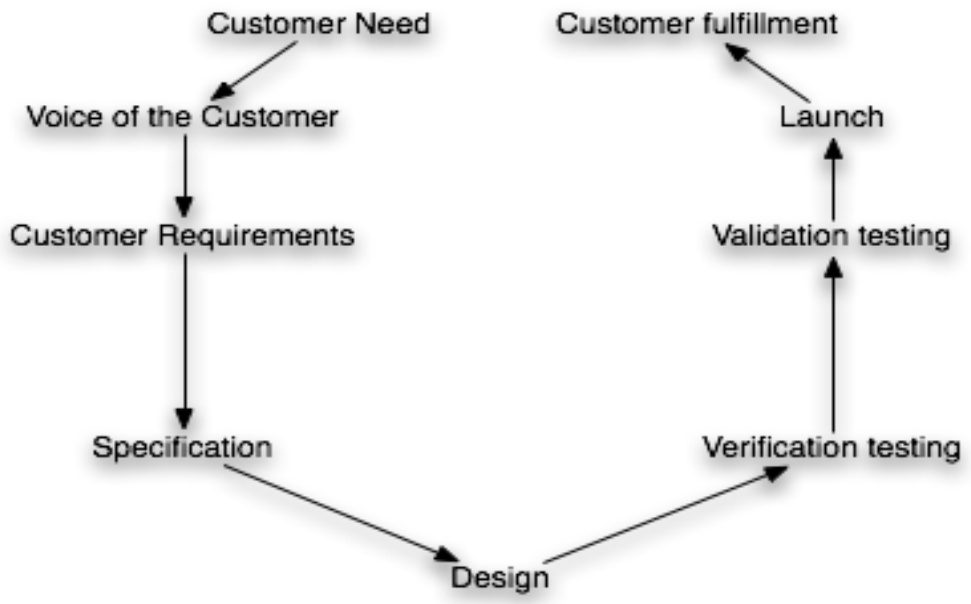
Appendix 4: Showing J. D. Power's Vehicle Dependability Test (VDT) results of the automotive industry for 2008 [3].



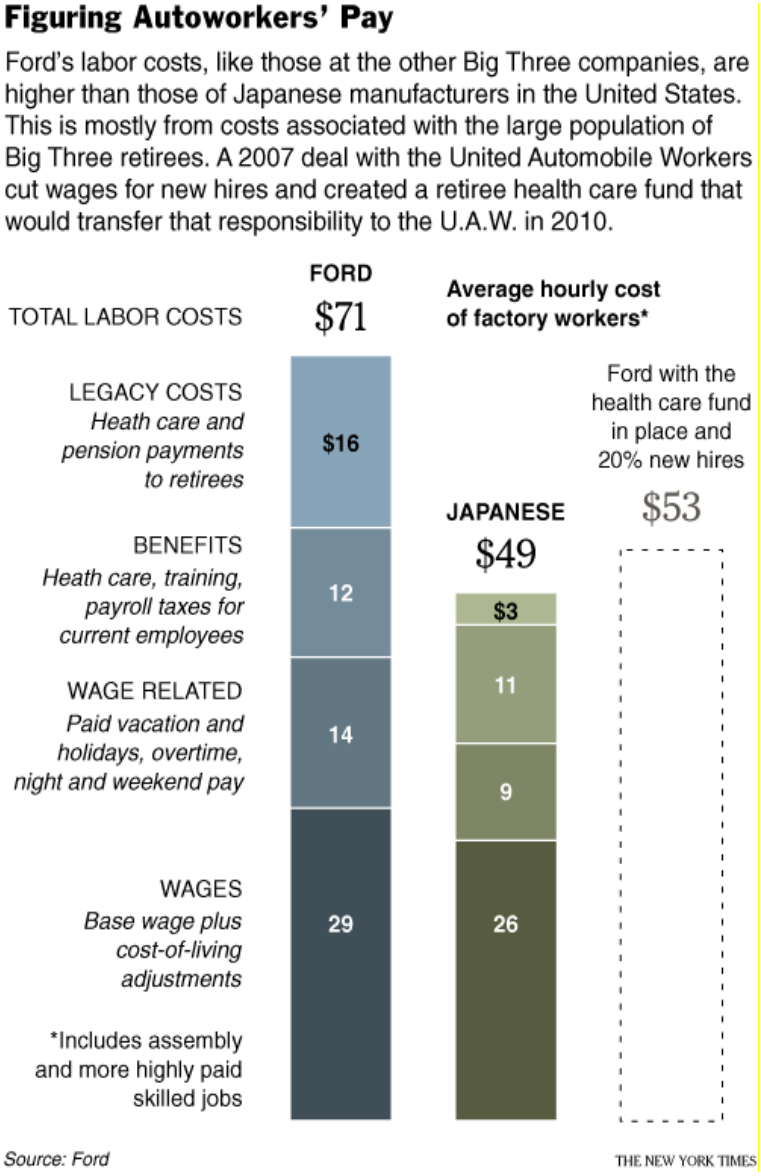
Appendix 5: Showing GM's current vicious cycle [7].



Appendix 6: Showing Toyota's method of design for the customer [7].



Appendix 7: Showing General Comparisons of Auto Workers Pay [17]



Appendix 8: Showing the list of the questions and answers used in interviewing the expert

1) Under what circumstances GM-Chrysler merger should occur? How would this help either company? What measurements do you think are expected from either end for the merger to be successful and profitable?
Ans. the merger would be a short-term resolution that would increase the liquidity but this will not help the company to sustain growth over a long period of time.

2) Do you think if GM continues to follow the road map they have recently adopted, of manufacturing of fuel efficient cars will boost their sales? Do you think GM will stand a chance to compete with Honda and Toyota by doing this, since these companies are way ahead on this path already?
Ans. no, foreign competitors have already developed a competitive edge in manufacturing fuel-efficient vehicles. It's too late for GM to stand-out in the market with manufacturing of fuel-efficient vehicles.

3) Do you think the American automotive industry is currently producing vehicles at the same level of quality as its Japanese competitors? If no, then what are the reasons restraining them from achieving that desirable level of quality?
Ans. the quality of cars is close to Japanese but not even in close competition to quality of European cars. If this gap in quality could be fixed, American auto industry would have been in a much better standing but it is too late to fix now.

4) How can GM change consumers perceptive regarding the "lack of quality" issue? Will benchmarking Hyundai's marketing strategy of 10 year warranty and buy-back option will give them the expected outcomes?
Ans. GM can change customer perception by delivering better quality at lower cost.

5) What do you think in general about GM's current production / manufacturing / inventory systems compared to Toyota's?
Ans. GM should lower its cost of production; it should have a dedicated team of engineers to monitor quality issues. Also, GM's initial business model was BTS (Build to stock), this cost added to the increased cost of holding-up inventory. GM should adopt a more flexible business model.

6) Do you think the recent change in consumer point of view of an automobile has changed the overall perception of US Auto industry? In context of customer requirements what do you think was the miss on GM's end that proved to be a win on Toyota's end?
Ans. the general perception about GM automobiles is "gas guzzlers"; GM needs strong innovation along with smart propagation to make its foray into the current trends prevailing in the market. They need to develop some small, trendy, fresh American brands. GM also lags behind in the manufacturing of eco-friendly cars. It certainly needs improvement on this front.

7) Do you think these government bailouts will help stabilize the auto industry in the long run? What is your personal opinion should the govt. let these companies fail, as in any free capitalistic economy?

Ans. direct funding won’t be of much help. GM has to regain consumer confidence to regain stability.

8) Incase GM fails or adopts a long path to recovery, we know the supplier network will be highly impacted, what do you think will be their options of recovery?
Ans. supplier Network has to be adaptive to survive the change in market trends.

9) What is the impact of GM having more brands than its major competitors in the past? (8 brands under GM in comparison to 3 brands at most for its competitors) And how will GM's decision to reduce its product line to fewer than 4 brands in 2012 help the company to improve its overall performance?
Ans. few focused and concentrated brands will help reduce overhead burden and will optimize the utilization of resources.

10) Like GM, Japanese automakers are dealing with health care issues when they open up factories in the U.S. For example, Toyota's health care costs for U.S. employees have doubled in the last five years. Unlike GM; however, to deal with health care, Toyota is building a $9 million dollar clinic to serve the employees of one of their factories. Do you recommend if GM sought to solve the problem with innovative thinking like this, GM's bottom-line would be a little more robust?
Ans. the first law of business is make money and then to invest. GM needs to make money by lowering its cost of production so that profit margins are increased. Increased profit margins and innovative and optimum utilization of funds is the key to the company’s survival.