Telematics Market Drivers

The Car Manufacturers' Perspective

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Abstract

The car industry is highly risk averse and is characterised by low growth rates, generally low profitability, and a high degree of competition among a diminishing set of actors. These factors influence the types of investments the companies in this industry can make in new developments, especially those that are not directly related to improving the performance of the vehicle, or with satisfying the many and increasingly stringent government regulations. This paper outlines the car manufacturers' perspective on investments in general, and relates this perspective to decisions concerning telematics systems in future car platforms.

Background to Investment Decisions

The automotive industry does not normally invest in high risk projects. The payback for success is minimal and the result of a failure can be catastrophic. The automotive industry as a whole is characterised by low or negative growth that is cyclical. Car and light truck sales in Western Europe increased in 2000 and 2001 over the previous year by only 1%. They decreased by 1% in 2002 over 2001, and decreased by a full 3-4% in 2003 over 2002. Sales are projected to rise again in 2004 as the world economy emerges from war and recession (although as of this writing, hostilities continue in Iraq, Israel and Afghanistan, and sky rocketing oil prices threaten to derail the still-shaky economic recovery).

A Deutsche Bank study reported recently in The Economist[1] found that the car industry represented only 1.6% of Europe's stockmarket capitalisation, and only 0.6% of America's. In 1980, the rates were 3.6.5 and 4% respectively.

Some automotive companies have been more affected than others by economic conditions, but for different reasons. Fiat's sales have plummeted because it simply stopped building cars that people wanted to buy, compared to its closest competitors, Renault and Peugeot/Citroen, as well as the Japanese small car companies.[2] Jaguar produced more cars, but the company neglected one of the most important drivers in the automotive industry today: cost control.

Product development cost control and operations cost reduction are the two most important considerations for car manufacturers today. They are desperately trying to increase shareholder value. As Fiat's current struggles show, and in the past those of companies like Chrysler, Jaguar, Rover and many others bare witness, profitable companies survive, the others are acquired or forced out of existence by unhappy shareholders.[3] The global economic recession has put pressure on sales, and

[1] *A survey of the car industry*, The Economist, September 4, 2004.

[2] Starting in 1998, Fiat began losing money. In 2002, the company lost €2.74 billion. In 2003, the loss was reduced to €2.06 billion, but the company does not expect to break even before 2006. While Fiat is still the best-selling brand in Italy, with 28% of the market in 2003, it lost a full 2.2% market share during the last year alone. Ford of Europe reported a loss of $1.1 billion in 2003, up from $549 in 2002. GM had an overall profit of $1.12 billion in 2003, with $1.16 billion coming from North America and $577 million from its Asia Pacific region. GM had losses of $286 million in Europe and $331 million in Latin America-Africa-Middle East. (Automotive News Europe: April 5, 2004).

[3] Vehicle manufacturers collectively have had a negative shareholder value creation of –20.8% during the period of 1992 to 1998. This was during the period that the overall market was increasing.

car companies have used financial incentives (rebates, low interest and no interest loans) to compete for the available buyers.[4] Margins on cars sold in today's market are razor thin. In 2003, GM made an average of only $350 on every car it sold. It actually loses money on most of its sedans sold in the US. Volvo makes an average profit of $435 per vehicle, but makes an additional $1800 per vehicle on parts, service and accessories. To use another razor analogy, the car has become the razor, and parts, services and accessories have become the razor blades.

There are a few exceptions to this rather grim picture of the automotive industry. Toyota is the most notable exception, along with Renault and Nissan, BMW and Porsche.[5] In 1980, Toyota's global market share was 5%. In 2003 its market share had risen to 10%, and it surpassed Ford Motor Company as the world's second largest automaker in terms of volume, after General Motors. It has set a goal of 15% by 2010, and few doubt that it will achieve this goal. Why is Toyota outperforming most of its rivals? According to an analysis of the company in Harvard Business Review, Toyota strives for "extreme competitive advantage".[6] They have developed a production system that is so much better than any other automaker's, say the authors, that they can produce a great variety of high-quality vehicles at very low cost, at both high and low volumes. In the U.S., their Lexus is tops in customer satisfaction (along with Nissan's Infinity), and their Camry is one of the best-selling models among all brands. Toyota has opened its factory doors and dared its competitors to copy Toyota's production techniques. So far, no one has been able to duplicate their success.

As a result of all of this, most of the rest of the automotive manufacturers will need to find revenues through cost savings.[7] They have pressed their Tier One suppliers extremely hard during the past ten years, and there is little more they can give in price reductions. The main areas left to cut costs are in the marketing and warranty areas. One area of possible savings is warranty breakdown assistance. The practice was started by Volvo in the US more than twenty years ago and eventually was adopted by all car companies and spread to Europe. It is a large marketing outlay for every car company, and the cost-cutters inside the companies would like to halt the practice. But consumers have come to expect it, and the auto companies have recognised that it provides opportunities for customer relationship management as well as direct financial contributions. For example, if a breakdown does occur, with warranty breakdown assistance, the car is usually taken to the owner's dealer or the closest dealer in the brand network. If the customer used its motor club membership (e.g. AAA, AA, RAC) for assistance, the car would be taken to the closest repair station.

Next to cost issues, market share protection is the highest priority for car manufacturers. They have found that the best way to maintain market share is to promote brand loyalty, that is, to keep existing customers rather than investing in acquiring new ones. They have to match or better their closest competitors in customer satisfaction surveys, and they have to match or better their closest competitors in the consumer reports surveys—value for money and the most features for the least amount of money.

Standing out in a crowded car market is not easy, especially since the automotive industry is characterised by homogeneity. Cars have different styling, different feature packages, different prices, but at the core, they are all basically the same product[8]. Companies compete within narrow buyer brackets: income; age; life-style; location. They compete to keep market share and possibly to steal a few fractions of percentage points from their competitors. Companies rarely have a monopoly on features for more than a car season because their competitors adopt and adapt them as soon as they know about them. Their competitors know about them usually because auto companies are keen to invest in competitive research, and their Tier One suppliers are selling the same products to all the companies in the industry. Cars have also achieved a level of sameness because there are few rewards for sticking out from the crowd. No one wants to be first with something new unless they are almost certain that their competitors will follow shortly after. If they do not follow, it means that the feature has been a failure and their investments worthless. Chrysler pioneered the talking car a few decades ago. *Your left rear door is ajar*, monotoned the Dodge Dart. "It is definitely NOT

[4] In 2003, the average industry incentive per car sold in the US was $2,426. For the European automakers selling in the US, the amount was $1,648.

[5] Renault and Nissan had a combined profit of €7.7 billion in 2003, second only to Toyota. BMW is headed for another record year in 2004, and pulled even with Mercedes-Benz in global production in 2003, at 1.13 million unite. (Automotive News Europe; April 5, 2004)

[6] *Harvard Business Review*; HardBall: Five Killer Strategies for Trouncing the Competition; George Stalk, Jr., and Rob Lachenauer (April 2004).

[7] VW instituted a €2 billion cost-cutting program in 2004, labelled ForMotion. The company had a 60% drop in operating profit in 2003.

[8] "General Motors and Coca-Cola (have) enjoyed a relatively stable product paradigm—for more than a century, cars have had four wheels and a combustion engine and consumers have sipped caffeine-laced soft drinks." Gary Hamel and Liisa Välikangås: *The Quest for Resilience*; Harvard Business Review, September 2003.

A JAR; it's a door, and it's open," screamed back the irritated driver, on his way to the dealer to have the voice disconnected. Chrysler's competitors did not copy the feature, although all of them probably had it ready to install if it had been a success among consumers.

Risk, Growth and Complexity

Auto companies invest in cost control and cost reduction, and better information systems and processes to achieve both. They invest in what their competitors invest in, and they invest to learn about what their competitors are investing in. They have not normally invested in shared infrastructure projects to achieve competitive advantage, and when they have (e.g. Wingcast or Covisint[9]) they have been major disappointments. The risk of failure is too great. Unlike other industries, like pharmaceuticals, there is no possibility of major growth in the existing markets. If anything, with the demographics of Europe showing population contraction beginning in the second decade of this century, fewer cars will be sold in Europe in the coming years. New markets, like China, are growing slowly, and new, local competitors are being established to meet demand. Unlike pharmaceuticals, where there are thousands of different illnesses that need treatment, the car industry builds one basic product that is very similar to all of its competitors' products.

I have found the diagram below to be useful for describing the decision factors driving the auto industry, the "hot buttons", particularly for describing how not to sell telematics. Up until mid-2002, when telematics was being promoted as the next big thing after the Internet, its salesmen were trying to sell it as a high growth driver and a significant differentiator. Since all the other business paradigms had already been broken by the "new economy", they assumed that the automotive industry was suddenly non-risk averse. All of these tactics and assumptions were completely opposite to the conditions of the auto industry. A more highly risk-averse, low growth and low complexity industry than the automotive sector would be difficult to find. It is the complete opposite of the pharmaceutical industry.

[9] Covisint LLC was formed in 2000 by GM, Ford, DaimlerChrysler, PSA/Peugeot-Citreon, Renault and Nissan. It was intended to create an online trade exchange for suppliers and automakers. After pouring more than $500 million into the enterprise, it was dismantled and sold in February 2004 to Compuware Corp., a software and technology service firm in Detroit.

Telematics[10] is Competing for Investment

Those trying to sell the idea of telematics into the car industry, whether from the inside or from the outside, must position telematics as a feature that first and foremost will reduce costs, keep customers loyal, and will be a feature that all other cars in its class will have in the near future. They should stop promoting telematics as a growth opportunity. The growth component is as a non-core business, which even at its best, does not add significantly to the core's source of revenue for car sales and sales of parts, services and accessories.

The implications for telematics are clear. No one wants to be first with a pan-European telematics service because the costs are extraordinarily high and it is not enough of a differentiator to drive sales. This is similar to developing cars driven by fuel cells or electric-only motors, or increasing the crash worthiness of cars. These features are competing for the same (limited) investment funds, and they have equally strong arguments in their favour, but they will not be implemented by a single car manufacturer until the entire industry is ready to bring systems to market.

On the other hand, when one or two companies have achieved it, all of the companies must follow. As long as DaimlerChrysler, BMW and Volvo had working systems in their home markets only, there was no pressure on the lower-end manufacturers to develop systems. When all three manufacturers announced new market openings during the autumn of 2003 and spring of 2004, other manufacturers, such as Peugeot[11], began to roll out their own products. These products were already under development, even though they are not discussed publicly.

The principal reason that a car company should bear the cost of installing a telematics system in its vehicles is to get a communications device into the vehicle to achieve cost reductions, and to enable better communications with the customer. Cars

[10] **Telematics** is two-way communications between a vehicle and a service center and to other vehicles. Data communications is a pre-requisite for all services. Voice communications is necessary for some functions, desirable for others, and non-essential for most. Adding a positioning device in the vehicle and mapping capabilities at the service center enables a range of location-based services to be provided. Telematics services can be vehicle-centric, driver-centric and/or passenger centric, but in all cases telematics refers to services which are delivered to a vehicle to enhance safety, security and comfort, and from a vehicle to provide information about the vehicle, its passengers or the vehicle's interaction with the transportation infrastructure.

[11] PSA Peugeot Citroën started offering its eCall location-enhanced emergency assistance system as a commercial service in September, 2004 in France with Germany to follow later in the year.

today are mobile electronics devices, computers on wheels, but they are totally isolated computing systems. Today, a non-connected computer (i.e. to the Web, to a network) is an anachronism, completely out of place. Connecting their vehicles to the information infrastructure should be one of the highest priorities for the automotive OEM. Older customers may tolerate having to drive to their dealer to connect up to the OEM's private and proprietary network in order to perform a simple software upgrade—as is the case today—but younger, more computer savvy buyers will see this as awkward and unnecessary. The first company to understand this and implement it will definitely—if only briefly—have a competitive advantage.

While the automotive industry is contemplating the telematics issue, governments and insurance companies are slowly making some telematics functions mandatory in certain markets. Cars in the luxury classification in The Netherlands and Belgium are required to have some form of stolen vehicle tracking system installed in order to obtain insurance. Telematics systems that have the possibility to serve this function will now need to be certified by the counties' testing agencies.

Automatic toll collection is spreading quickly following its proclaimed success in Central London.[12] London's system requires no in-vehicle systems, but there are a number of schemes on the drawing boards that will be much more convenient for payers and collectors alike that use communications and positioning systems, like those built into telematics systems.

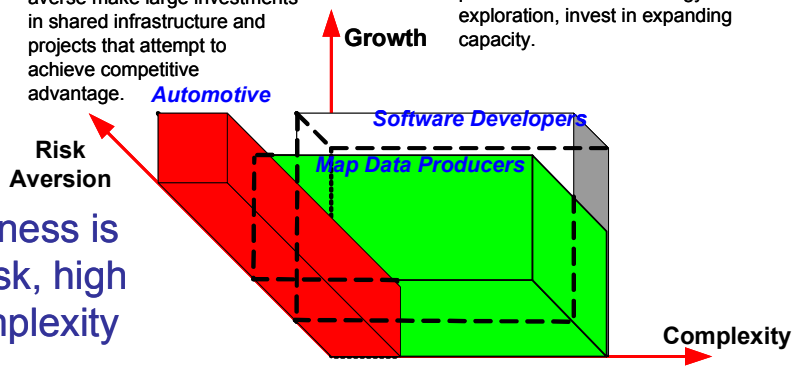
Providing safety, security and convenience services, like those offered today by GM's OnStar, BMW, Volvo, DaimlerChrysler, are just the beginning of what the automotive companies will be able to do for their customers while improving their own abilities to control costs and enhance their chances to build a long-term customer relationship.

[12] A Frost & Sullivan report titled Strategic Analysis of the European Road User Charging Systems Markets, projects the market to grow at an annual rate of 10% from 2003 to 2011, expanding the market for in-vehicle units and roadside equipment from the current £444 million to £1 billion.

Investment Decision Factors

Risk - The degree to which investments involve high risks. Risk averse companies, like those in the automotive sector, invest in cost control and competitor information. Companies that are not risk averse make large investments in shared infrastructure and projects that attempt to achieve competitive advantage.

Growth - The degree to which investments provide an opportunity to achieve significant growth. Companies in sectors that have minimum or negative growth, such as the automtive industry, invest in efforts to protect market share, while growth sectors, like pharmeceuticals and energy exploration, invest in expanding capacity.



The automotive business is <u>different</u> from high risk, high growth and high complexity businesses, like phamaceuticals and software developers

Complexity - The degree to which investments can increase complexity and create greater product differentiation. Companies in industries that are highly complex can work in very narrow niches and develop new products that solve particular problems and satisfy specific market needs. The automotive sector creates variations of the same product with the same basic performance objective. There is very little complexity. Investments are made in identifying which features that are introduced by competitors are likely to be required by the market.

