

Are automobiles the next commodity?

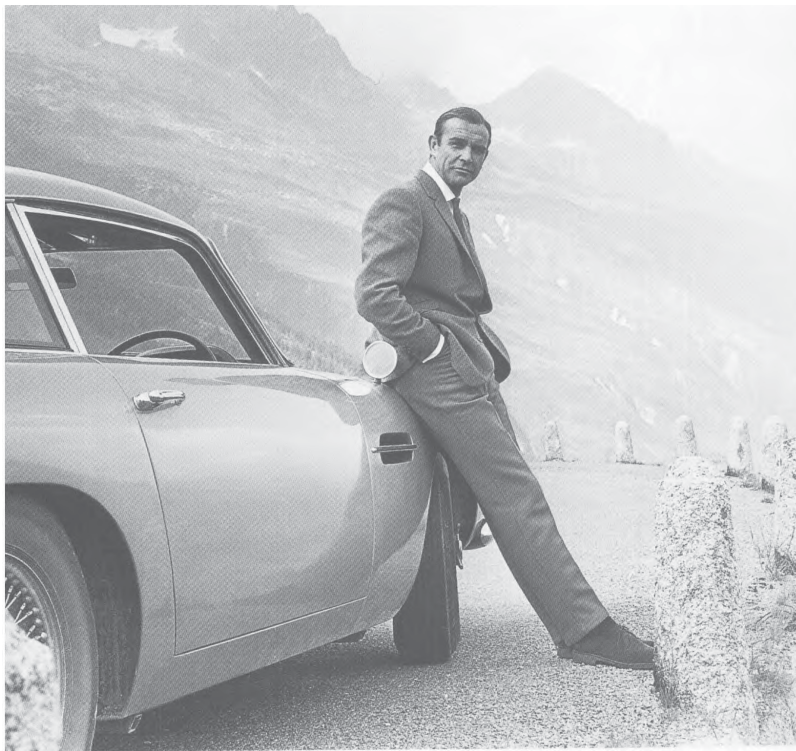
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ABSTRACT

The question - How do car companies prevent their product lines from becoming just another commodity, like white goods and personal computers? - is discussed. The answer lies in moving beyond conventional definitions of product and brand value - beyond rooting out every defect in a design - to creating vehicles that surprise and delight. In a world of flat demand, manufacturers must look downstream for new revenues. For example, a typical midsize passenger car can generate almost \$70,000 in revenue over 10 years - a sum of which car makers have traditionally secured less than half.

FULL TEXT



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AS THE MOTOR INDUSTRY ENTERS the tenth year of its second century, it finds itself in a jam. Barring an innovation of the order of Henry Ford's original mass production assembly line, demand across Europe, the US, and Japan has mostly matured; growth into the next century is likely to be no greater than 1 or 2 percent.¹ High new car prices, stagnating wages, and a supply of inexpensive, good-quality used cars have throttled back demand. At the same time, new entrants to the market, new regulations, too much capacity, and insatiable demand for fresh

and differentiated products have eroded profit margins for many original equipment manufacturers (OEMs). Motor manufacturers' response has been to try to make their products more attractive, and so maintain price premiums, by actively managing brands. In contrast with packaged goods manufacturers, the purveyors of the world's largest consumer item - the motor car - are relative latecomers to brand management. Instead of managing individual vehicle line identities, most car companies have until recently managed the overall marque identity (the values that make a Chrysler a Chrysler, for example). Today, several companies have brand managers charged with shaping the message and profile of individual cars to specific audiences, and responsible for ensuring that value, packaging, and content match the requirements of targeted consumers.

Although a step in the right direction, these efforts seem too little too late. Many brand-management strategies focus on the traditional ways car companies have differentiated their wares via attributes. But these differentiators are less powerful than they were. Given competitors' increased capability, the accelerating pace of change, and customers' sophistication, a car maker grows in a world of flat demand only by taking a holistic approach to improving the perceived value of a vehicle at the time of sale, and by increasing the total revenues generated throughout its lifetime.

Perceived value is improved by optimizing performance, quality, and price - all features commonly ascribed to brand management - but also by means of often overlooked levers such as managing "things gone right," and by exploiting downstream opportunities to communicate with customers via innovative and unusual channels.

Traditional "marque" differentiators are converging

Product features, performance, quality, styling, and efficiency have been the traditional attributes used to distinguish motor vehicles since the industry began. In 1912, Cadillac was the first car company to introduce a practical electric starter on its vehicles. The Delco starter was indeed a better mousetrap, offering a safe, toil-free way to start the engine. Cadillac's sales increased 20 percent that year, while General Motors' in total remained flat. This is a classic example of attribute-based differentiation. Add a new feature or performance attribute, promote it as a sales point and, if customers find it attractive, they will beat a path to your factory door.

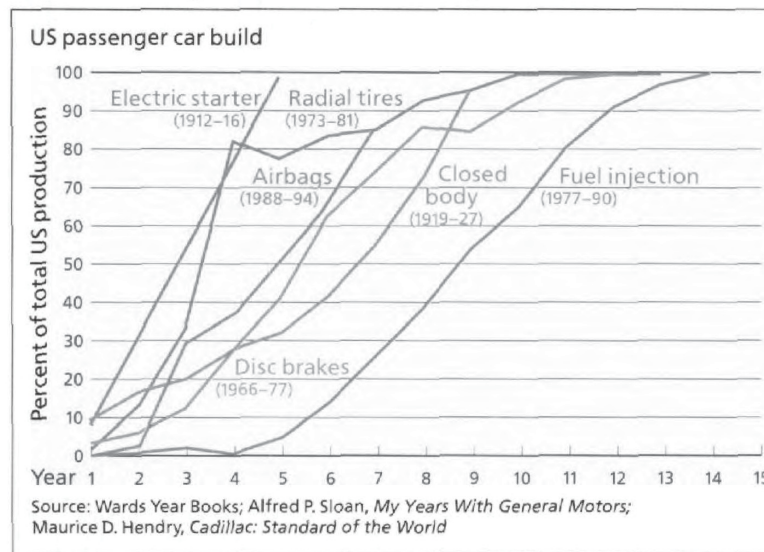
But it also illustrates the chief drawback of attribute-based differentiation its transient nature. Within four years, according to one report, almost 90 percent of the cars sold in the US featured self-starters (Exhibit 1). Today, attempts to differentiate a vehicle based on features tend to get lost in the white noise that surrounds automotive marketing. There are few, if any, new features as self-evidently useful as the electric starter was in 1912. New features now tend to address latent or hidden customer issues. Indeed, a recent survey indicated that up to 43 percent of customers believed their cars were equipped with anti-lock brakes, when they were not. At a time when overall vehicle function is satisfactory on most counts, the issue becomes how much more the customer is willing to pay for each new performance enhancement. (When Chrysler decided to introduce airbags on all models, it reportedly offered them as a zero-margin feature to maintain prices.)

The content of many cars has reached a point where the incremental value of yet one more feature is often overwhelmed by the high number of standard features that even entry-level vehicles have. In the rare cases where a company does come up with an innovation that enhances demand (the second sliding door on the Chrysler minivan, for example), the rest of the industry co-opts it rapidly, giving the company at most a two- to three-year lead before parity returns.

Vehicle performance levels are converging

After the 1970s oil crisis, the Japanese gained market share in the United States because of their cars' superior fuel economy. American cars of the time averaged 13 miles per gallon (mpg), the typical compact Japanese car twice that. Today, typical Japanese and American cars average within an mpg or two of each other. (US companies reduced their product lines while the Japanese pushed upmarket, causing their overall fuel economy rating to decline.) If and when the next oil shock comes, no one will be handed the immense advantage the Japanese enjoyed in the US the first time round.²

Key technologies: Pace of market penetration



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Overall performances in acceleration, braking, and cornering have also converged with the widespread adoption of new technologies such as fuel injection, multivalve engines, semi-metallic brake pads, and radial tires. A review of several such performance measures in *Road & Track* magazine over the past 36 years shows a steep average improvement in performance. Indeed, some sport versions of entry-level cars such as the Plymouth Neon now outperform the top-of-the-market cars of 20 years ago on several counts (Exhibit 2).

In addition, vehicle safety ratings, measured in terms of passenger fatalities per million vehicles, have been on a downward trend since 1978 as more companies adopt technology - such as airbags, high-strength steel "safety cages," and four-wheel disc brakes - that was once the preserve of luxury car makers.

This closing of formerly wide gaps in performance and function has happened almost across the spectrum of performance-based attributes. Quality has converged to the point where the industry as a whole averages one defect per vehicle (as calculated by J. D. Power surveys). In fact, the industry-wide rating for average defects per 100 vehicles in 1996 is better than the best company's rating was in 1989. The chasm which yawned between US and Japanese defect rates at the beginning of the 1980s, when some domestic car makers averaged more than eight defects per vehicle while the Japanese were down to about two, has narrowed to within one or two per car today (Exhibit 3).

There is little debate over whether the average car of today is significantly better than that of ten or 20 years ago: it definitely is. While a boon for consumers, this raises difficult questions for car makers deciding how to compete. Performance that ten years ago would have been deemed the best in its class is required today just to stay in the game. This sharply reduces the advantages that providing additional features or enhanced functional excellence can bring.

If most traditional differentiators are converging, how can car companies prevent their products from becoming commodities, with generic cars offering similar performance and features, as has happened in the US personal computer and white goods industries?

From things gone wrong to things gone right

Most companies have closed the gap in quality as measured by defects, or "things gone wrong," even while producing more and more complicated vehicles. It indicates that the industry in general has mastered design integration at the component level: despite the need to add more systems to the design (with their cumulative increase in overall complexity), manufacturers have continued to improve overall quality, reliability, and durability

(Exhibit 4). Given this, the question arises whether it still makes sense to focus so exclusively on moving from one defect per car to three-quarters or half a defect per car, when it may have little impact on sales if a manufacturer has already passed the point at which its typical customer ceases to care about "things gone wrong" quality.³ The step beyond "things gone wrong" (beyond bolting the parts together and having them work every time) is vehicle-level integration, which introduces the notion of "things gone right." The focus here is on developing a concept and design which appeal to the buyer on various emotional levels. Through styling, packaging, materials, and technology, a car evolves that forges strong ties with targeted consumers. The goal shifts from rooting out every problem in the design (this is still important but not essential, as we shall see) to creating a vehicle that "surprises and delights," and from meeting objective criteria which are relatively easy to measure (defects per 100 vehicles, for example) to subjective issues such as aesthetics, "feel," sound, texture, and how secure a vehicle's occupants feel. As these attributes tend to reflect regional tastes and mores rather than measurable absolutes, companies must submerge their design functions in the regional culture to design in "things gone right" consistently. (This regional focus argues against the viability of the "world car." Many key practitioners of world car design - Toyota with the Corolla, Honda with the Civic - have moved away from the idea.)

Henry Ford's Model T and Volkswagen's Beetle are archetypal examples of vehicle-level integration. They were unmistakable (and unmistakably linked with their respective brands). A modern archetype is the Harley-Davidson superheavyweight motorcycle. In terms of technology, it is archaic: a true example of "yestertech" compared with the sleek Japanese touring bikes with which it competes. Yet it dominates its market segment. Harley-Davidson executives know exactly what their product's appeal is: a combination of the look, stance, size, sound, and even levels of vibration the rider feels while cruising down the highway. (They take each element so seriously that they have applied to register the unique sound of their V-twin, common crankpin motorcycle engines.)

An intriguing aspect of vehicle-level integration when it is linked strongly to a brand is that impeccable quality is not essential. For years, Jaguar sedans have been coveted even though, until relatively recently, they ranked below average in surveys measuring defect rates. Likewise Jeep, perhaps the ultimate sport utility brand, has enjoyed robust sales and exceptionally high resale values despite below-average quality. In these cases, the combination of superb vehicle-level integration and strong brand equity (who does not think of polished walnut and Bridge of Weir leather interiors when the name Jaguar is mentioned?) apparently dispels normal consumer caution over quality.

Vehicle-level integration linked the brand

Jeep, Jaguar, Porsche, and BMW share a trait with the Model T, the Beetle, and the Harley-Davidson motorcycle: all the vehicles in their product lines are unmistakable, and all are strongly linked with perceived brand values. Most buyers could explain what makes a Jeep a Jeep, a BMW a BMW, a Jaguar a Jaguar. In these cases, the brand image conveys what is on offer, and the vehicles in the product line reinforce the brand image.⁴ As might be expected, many of the companies with the strongest product-line links to their brand have tightly controlled lines. Jeep, for example, does not make sports cars; Jaguar and Rolls-Royce do not make economy cars; Porsche does not make four-door sedans (although it has toyed with the idea).

This clarity of vision may not be possible for most mass market motor companies, because their product lines are so wide. At General Motors North American Operations, for example, the task of creating unmistakable brand images for over 50 car and light truck models assembled under eight brands is formidable, especially as many brands share products. It is possible, however, to align models broadly beneath selected lead products which incorporate the values that make the brand unmistakable. That way, the product line can share the lead product's aura, while supporting overall brand image. This was how GM dominated the US automotive world in the 1950s and 1960s.⁵

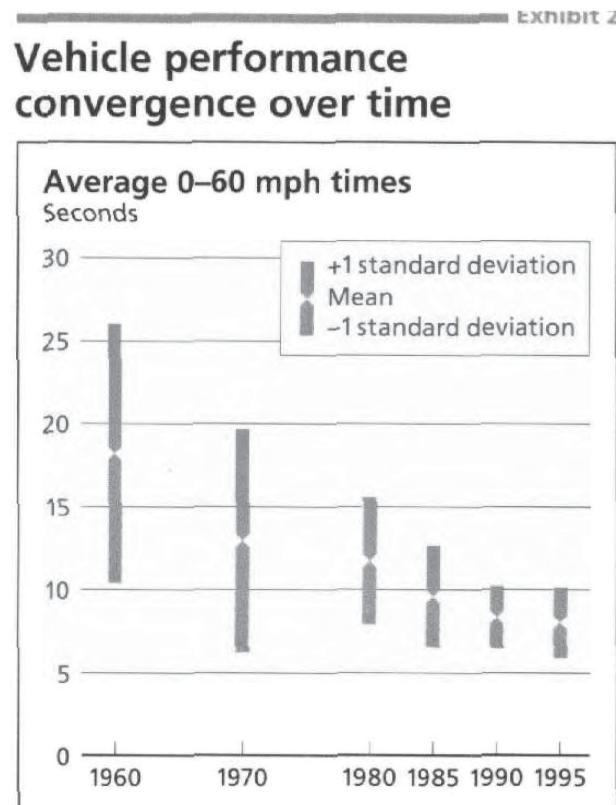
Today, as models and market segments proliferate, some companies appear unclear about what their brand values are, beyond boilerplate descriptions such as "value," "comfort," or the enigmatic "expressiveness." Why? Because the age of the industry's founders has largely passed. The business has become bureaucratic, with less room for a Henry Ford or Soichiro Honda to demand that their cars look or drive a certain way because they, the inventors,

knew instinctively what made a Ford a Ford or a Honda a Honda. Today, companies have to institutionalize these brand "recipes" and refine them in order to integrate new products. But new products will build brand equity only if they reflect established brand values.

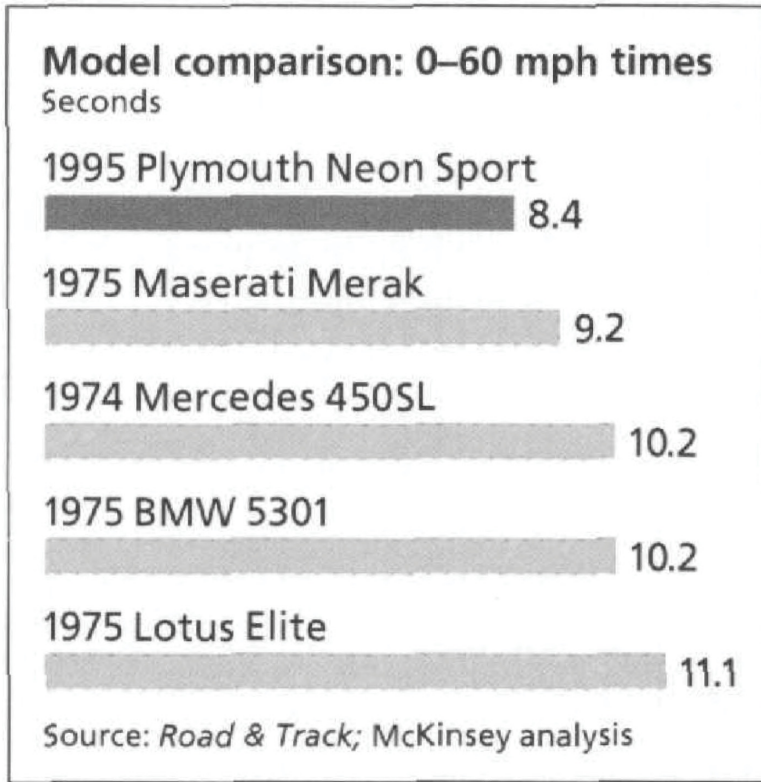
Companies can build perceived value in a number of ways:

By listening to, but not always following, the customer. Customer views tend to reflect the conventional wisdom in product design. Perceived value is created when companies use customers as a sounding board for their own ideas. As the designers of the Chrysler minivan have said, few customers would have been able to articulate the minivan concept beyond vague musings.

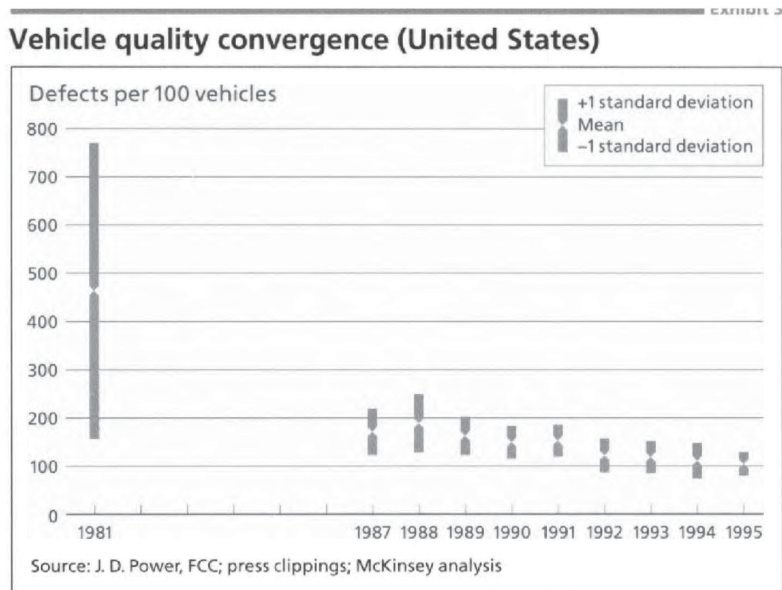
By mastering "things gone right" design. This often requires immersion in the history, culture, and innovations of a market region. Mazda's Miata sports car, largely conceived and styled by Americans and augmented by fanatical research of western trends and culture by Mazda in Japan, has outperformed Ford's Australian-designed Mercury Capri in the US by remaining true to the classic sports car format of the 1950s and 1960s, down to the sound of the exhaust note.



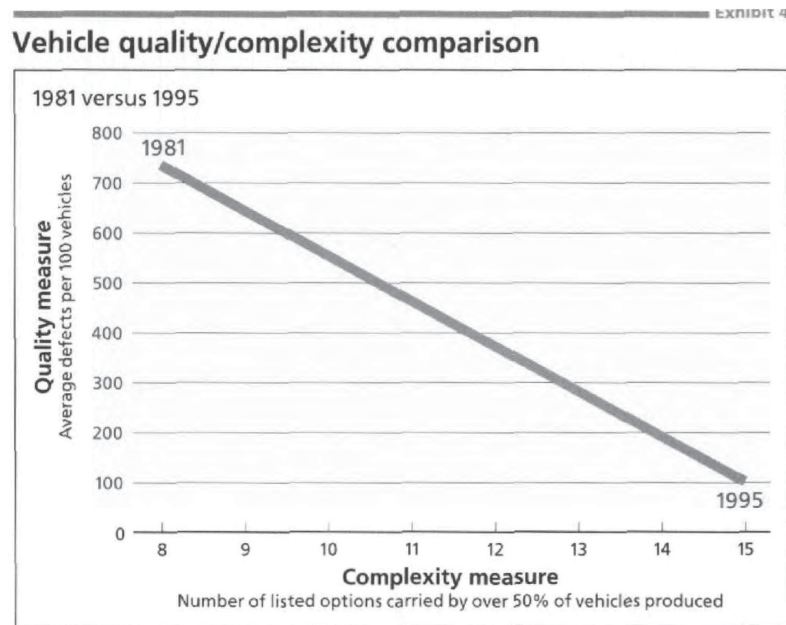
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By linking individual product development activities with the company's overall product line and brand strategies. Many companies have products that stand out, few have product lines that stand out. Again, General Motors mastered this sort of orchestration in the 1950s and earlier, when the path from Chevrolet and Pontiac to Oldsmobile, Buick, and Cadillac traced a neon-lit stairway of success for American car buyers. Today, BMW has a similarly arrayed product line that is differentiated but internally consistent, selfreinforcing and, importantly, simple for customers to understand.

By having the discipline to kill poorfitting products and maintain product "integrity" from one generation to the next. Buick in the mid-1980s attempted to shed its image of upper middle-class respectability because it wanted to be seen as a "speed racer." The move alienated old customers without attracting new ones.

By understanding that innovation is not the same as high technology, and vice versa. Chrysler in the US has developed some of the most innovative and attractive products of the past five years, yet they are not considered leading-edge applications of high technology. Some are decidedly low-tech: the Dodge Viper, for example, is a reinterpretation of the "muscle cars" of old. The new Chrysler minivan and Dodge Ram pickup trucks may be innovative in overall design integration, but use fairly typical technologies.

Going downstream to strengthen customer loyalty

Once a company has aligned its product and brand values, how does it communicate them to potential buyers? Usually, it uses two channels: advertising and dealer networks. Each has its problems, from the clutter an advertisement must break through to be heard, to the generally poor state of dealer service.⁶ One difficulty with dealer service arises, ironically, from improved vehicle quality. If cars do not need to be tuned up for 100,000 miles (and many do not), and cheaper alternatives exist for routine maintenance such as oil and filter changes, how does the car maker keep in touch with customers?

Traditionally, the dealer network is the front line for car makers; few operate downstream from their dealers except to sell parts and accessories. But a typical midsize passenger car in the United States can generate almost \$70,000 in revenues over a ten-year life cycle (Exhibit 5). Hitherto, automotive OEMs have been happy to participate in only about 43 percent of that sum, through dealerships and financing arms. The rest is earned by other players: oil companies, repair facilities, tire makers, aftermarket parts and accessories manufacturers, insurance companies, and banks.

Some OEMs, through luck or apparent strategy, have begun to take more of that revenue stream, in the process

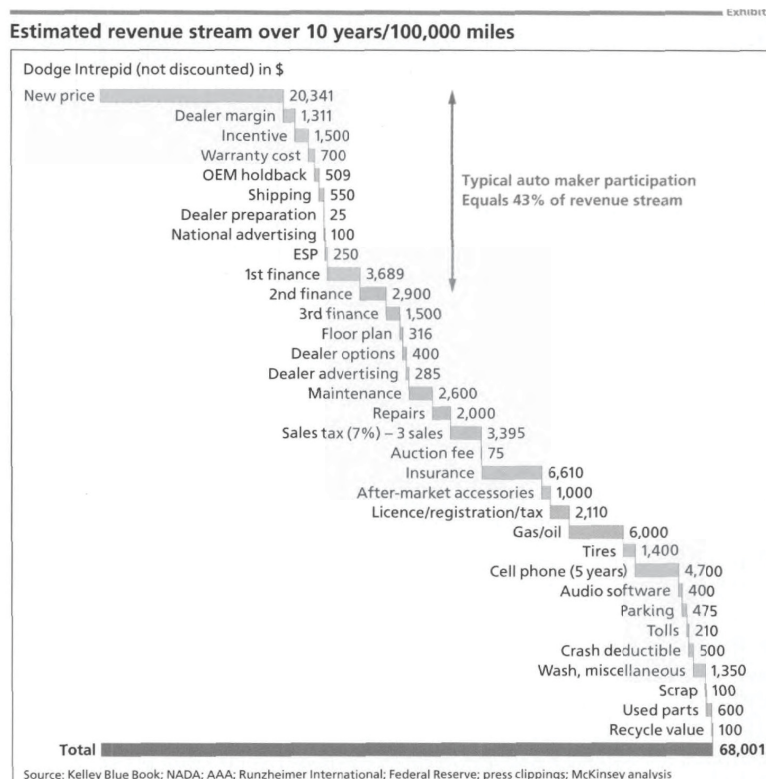
maintaining contact with customers and gaining greater understanding of them. They find out when buyers might be in the market again for a new vehicle, and what they think of the brand.

A classic example of capturing additional value is Chrysler's introduction of an integrated child seat in many of its minivans and cars. Chrysler earns \$90 for every child seat it sells - \$90 which formerly went to aftermarket child seat makers. Not only that, but by supplying an arguably safer and more convenient child seat, the company generates goodwill.

Further ways in which car makers can increase their share of revenue and enhance brands may be grouped into categories (Exhibit 6):

Extending reach into the used vehicle market. This option has begun to look attractive to OEMs because uniformly higher quality and the widespread introduction of short-term leases mean margins and resale values of used cars hold up well. Some have begun to offer factory leases on selected used cars that were originally leased, bringing in additional revenues per vehicle.

Ford in the UK is refurbishing vehicles for resale through dealerships; Jaguar, BMW and other luxury marques have similar plans in the United States, offering refurbished vehicles with special warranties to attract future new car buyers into the fold.



Enlarge this image.

Integration of lifestyle and accessories into vehicle design. A few companies have begun to link their brands with complementary products. Luxury car makers have sold designer clothing for years, but OEMs are venturing into other consumer goods areas as well. Chrysler's integrated child seat is one example. Land Rover in the United States is transforming its dealerships into boutiques selling outdoor clothing and skiing and camping equipment, while Porsche, BMW Audi, and Jeep are or will be selling hightech bicycles carrying their own brand names. VW markets a limited-edition Jetta Trek sedan which includes a roof rack and Trek USA mountain bike.

Vehicle-use enabling services. Still relatively rare, such services help to create a community based on the

ownership and use of the vehicle. Ford in the US has begun a pilot program offering physical damage and liability insurance to customers. BMW Audi, Porsche, and other performance and luxury car makers have opened driving schools to teach new buyers how to take full advantage of their vehicles' capabilities. Toyota, Nissan, and other Japanese car makers operate sport-, utility-, and recreational-vehicle camping facilities in Japan so that owners can try out their vehicles. Some Japanese OEMs also offer parking space rentals in Japan, where space is tight and proof of a parking space is required before a car may be purchased.

Affinity or co-branded services. These enable car makers to offer special or co-branded services that typically would be available only in the aftermarket. Affinity credit cards may enable customers to accrue savings on their next vehicle purchase.

Exhibit 6

Increasing revenue share over a vehicle's lifecycle

Opportunity	Examples	Current players
Extending reach into used vehicle market	Refurbishing used vehicles	Ford UK, various luxury marques
Integration of lifestyle/accessories into vehicle design	Integrated child seats (\$100 to \$200 per seat) "Lifestyle" option packages for recreation	Chrysler (1992), Ford, GM, others VW, Porsche, BMW, Audi, Jeep
Vehicle-use enabling services	Parking space rental in Japan Sport, utility, and recreational vehicle	Honda, Toyota Yanase (car distributor) Nissan
Vehicle-management services	Special leasing/rental arrangements - Part-year seasonal lease (eg, Explorer in winter, Mustang convertible in summer) - Vehicles provided as needed for urban/"bi-coastal" customers Personal fleet management services - Door-to-door sales/service - Registration/licensing - Vehicle insurance - Extended service protection - Security system management - Crash services - Affinity fuel credit cards, etc	None Japanese in Japan provide many of these services Some dealers in the US provide certain services (eg, door-to-door selling), but none provides integrated package
"Close in" ITS opportunities	Automated toll collection billing via in-car transponder Navigation system hardware, software and "airware" (satellite) provider Traveler security systems "Multimedia" integration with audio/cellular phone equipment	None GM TravTek (prototype) GM (Onstar), Lincoln (Rescu) Alpine, Clarion
Transportation management services	Integrated air/surface travel management services to ease business/vacation travel (eg, integrate Hertz customer database with Ford customer lists to provide preferred status to selected Ford customers)	None

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Toyota in the US offers Toyota-branded car, dealer, and general insurance through an agreement with a traditional insurance carrier. Ford in the US has begun a pilot program offering physical damage and liability insurance to customers. BMW and Porsche have arrangements with large insurance carriers to cover owners at favorable rates. All four companies build brand equity through out-of-the-ordinary services.

Special vehicle/community events. These go back to the days of the Ford Model T, when dealers held large informal picnics for Model T owners. More recently, Saturn, a division of General Motors, invited Saturn owners to a "homecoming" celebration at the Saturn assembly plant in Spring Hill, Tennessee. More than 40,000 Saturn owners took part. The homecoming promotion campaign, which ran for the first half of 1994, reportedly cost Saturn \$1 million. Sales for this period increased almost 10 percent on the previous year. (Harley-Davidson's own homecoming celebration, the inspiration for Saturn, drew more than 100,000 Harley-Davidson owners and admirers to Milwaukee in 1993.)

Saturn, along with BMW Ford's Lincoln division, Nissan, Toyota, and GM's Chevrolet Corvette division, also offers tours of its US facilities.

Further downstream opportunities

Other categories of downstream opportunity could emerge, such as:

Near-term intelligent transportation services (ITS). These range from providing the automated toll collection services being tested today to navigation and two-way communications systems. The worldwide navigation system market is forecast to grow at almost 25 percent a year up to 2005, taking total sales by then to almost \$3 billion. In Japan, navigation systems are already being taken over by consumer electronics companies such as Sony, Sanyo, and Pioneer.

Following the introduction of the first security alert systems (Ford's Rescu and GM's OnStar), the first integrated two-way communications systems are being developed. Intended initially to provide security and to track vehicles, the systems could blossom into multimedia and multiservice networks, offering everything from traffic and navigation information to real-time vehicle diagnostics. Who will benefit from the operation of such systems remains to be seen, but projections indicate that the worldwide market for them will grow by 28 percent a year and, like the market for navigation systems, be worth more than \$3 billion by 2005.

Two-way communications are also attracting large new players into the auto market, including network providers such as Skytel and Hughes, and communication service providers such as Westinghouse. In addition, makers of in-vehicle hardware are teaming up with network and service providers to offer a complete service. Opportunities for auto makers to participate in this emerging industry will probably diminish as technologies and standards are formalized, so the time to act is now.

Vehicle-management services. These could include special leasing or rental arrangements to enable vehicles to be leased according to need. For one fixed-lease payment, a customer could drive a Ford Taurus for six months in the winter and trade it for an F-series pickup in the summer. Or, for a set fee, motor manufacturers could provide complete "sale-to-resale" services for selected customers. In an integrated package of services similar to those offered businesses by large fleet management companies such as PHH or GE Capital, dealers could provide busy executives with door-to-door sales and service, take care of registration, insurance, and licensing requirements, and offer affinity fuel credit cards.

Clearly, OEMs do not have to invest enormous sums in new, unfamiliar businesses to take advantage of these possibilities. Many could be realized via alliances. Established auto makers offer reservoirs of current and former customers, the legitimacy of trusted brand names, and, as always in the OEM auto industry, enormous potential scale.

Redefining the business arena

Before a company can contemplate anything more than an opportunistic lunge at building its brand image and netting revenues downstream, it must answer an old question: what business are we in? Many OEMs would answer that they design and build cars for sale through their dealers. With this mindset, downstream activities are probably doomed to failure. OEMs' reaction to the developing cellular phone industry is a case in point. Despite the boom in cellular phone use, and the safety advantages of "hands-free" phone operation - which are more readily available if the phone is installed at the factory - the industry installs phones in less than 1 percent of vehicles in the US.

But the brutal competition of the next century means companies will have to move beyond conventional definitions of product and brand value, quality, and market arena. In the battle for increased market share and profitability, success is more likely to go to those that seek new solutions to the old problems of overcapacity, hypercompetition, and brand and value destruction, than to those that do the same things they have done for the past 100 years, yet one more time.

Footnote

1 For notes, see page 75.

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1 Little wonder opportunities to supply the booming non-triad markets have captivated many car company CEOs,

with announcements issuing from South East Asia almost daily of million and billion dollar deals between major global auto companies and hitherto unknown local players. Indeed, forecasts peg demand growth in the 5 to 10 percent annual range for many developing countries; attractive rates, though some markets will grow from very small bases. Whether such growth will also translate into fatter bottom lines remains to be seen. Nonetheless, car companies that strain to break even on \$15,000 to \$20,000 offerings optimistically contemplate the fortunes they will make building cars that will have to sell for as little as \$4,000 in some markets if growth projections are to be reached.

Footnote

2 While the Big Three will probably lose some highly profitable light truck and sport utility sales, most should be able to compensate with higher prices on more economical passenger cars. 3 A similar argument can be made about an auto maker's internal performance: is moving from 18 to 14 man-hours per car in assembly time imperative, or is it enough simply to close the gap from 35 man-hours to 20?

3 It is possible to develop an integrated vehicle design which has few links to product line brands. The highly successful Chrysler minivan, for example, is more closely aligned in many minds with Chrysler's corporate identity than with the Dodge and Plymouth brands it wears. With no clear

Footnote

distinctions between Dodge and Plymouth versions, the minivan is unmistakable only when compared with the competition. Thus customers exhibit loyalty to Chrysler Corporation but perhaps not to Dodge or Plymouth, which tends to weaken the product line. 5 Former GM President Alfred Sloan's recipe of a car for every purse and purpose has been complicated in recent years as all GM divisions attempt to offer all things to all customers; in the past, when Chevrolet had a standard model with variants and perhaps an entry-level model as well, it was easier to match Chevy's perceived brand values with the vehicles it was selling. 6 For more on these issues, see Glenn A. Mercer, "Don't just optimize - unbundle," The McKinsey Quarterly, 1994 Number 3, pp. 103-116.

DETAILS

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