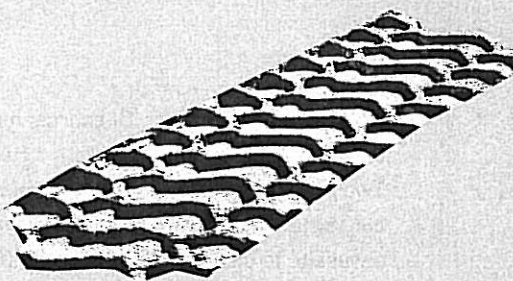


Concluding concept 3

Toyota Prius: green or geek machine?



There are many reasons why people may want a revolutionary car. Some enthusiasts enthuse about scientific and technological advances and want the latest gizmos. Others rebel against fuel price increases, even though fuel is cheaper than it has been for decades. Finally, people are 'concerned about the environment'.

Hoping that all of the above was true, and looking to grab a technological advantage over other car manufacturers, in 2000 Toyota introduced Prius, their first hybrid car. Prius means 'to go before', so is a name that may be very prophetic. The Prius and the Honda Insight are the first in a wave of hybrid family cars coming out ahead of similar vehicles from GM, Ford and DaimlerChrysler.

At first glance, the Prius seems to have a lot going for it. It combines a 1.5 litre, four-cylinder petrol engine and a 33-kilowatt electric motor. It comfortably seats five, if the three in the back aren't too tall or too big, and has 0.34 m³ of luggage space. The electric motor starts the car and operates at low speeds, using a nickel metal-hydrate battery. At higher speeds, the Prius automatically switches to the internal combustion engine. Under normal motorway driving conditions, it should get 28 km per litre.

The downside is that the Prius is no muscle car. It also costs about €4,000 more than the Toyota Echo, although they are nearly the same car. Of course, getting twice as many kilometres per litre of petrol will help to offset the price differential. Assuming the range and a typical 2002 price of €1.00/litre, the Prius owner would have to buy 4,000 litres of petrol, enough fuel for 112,000 km, which could take years. Of course, if prices were to rise drastically, that could change. But even if prices doubled – which is not likely – you'd have to drive more than 50,000 km to make up the initial price difference.

The picture gets even gloomier when you realise that no one is going to get the estimated fuel consumption anyway. The Environmental Protection Agency (EPA) has admitted that its testing procedure overstates petrol mileage by as much as 15 per cent. It tests cars on a chassis dynamometer, where the driven wheels turn freely on a set of rotating drums – far from normal driving conditions. In addition, hybrids use regenerative braking to recharge their batteries, with the result that braking

during the EPA driving cycle is feeding more energy back into the system, boosting estimated petrol mileage.

Although this offers a fuel saving, the overall cost of ownership looks less attractive. Compared with the family 'Car of the Year 2004', the conventionally powered Toyota Avensis 1.8 T3-S, the Prius looks poor value. Although the Prius saves on fuel, its overall running cost comes out higher than that of the equivalent Avensis. The reason is its 25 per cent higher service or contract hire cost.

On the brighter side, Toyota and its competitors believe that costs will decrease once production of hybrids begins to yield economies of scale. The benefits of scale would not stop with the producer. For example, a major part of the cost of the car is the nickel metal-hydrate batteries. A company such as Panasonic could reduce the cost of producing batteries through research and development, if the market merited such an investment, and could further reduce the price of batteries through its own economies of scale.

However, realising that cost reductions are a way off and that fuel savings aren't going to be the key to convincing people to purchase the Prius, car manufacturers have asked for tax incentives to stimulate purchase of clean-fuel and high-mileage cars.

Several governments are providing incentives to people to buy hybrid cars. The US government offers \$2,000 federal income-reduction and the UK government offers reduced car tax on initial purchase. Electric car drivers can also avoid London's £5 per day Congestion Charge.

Are consumers ready for hybrids? Do improved gas mileage and emissions standards affect their buying decision? A glance at car sales in the last 10 years would suggest not. The biggest sales growth was in gas-guzzling 4 × 4s. After all, we rarely saw Range Rovers 10 years ago; now they're a fairly common sight. People, it seems, think it's a good idea for their neighbours to drive 'green machines', not themselves.

Actually, when the Prius was introduced, it flew out of dealers' showrooms. Between July and October 2000, Toyota sold 2,610 Priuses and had difficulty keeping up with demand. By the end of October 2000, the cars were

Are consumers
ready for hybrids?

waitlisted until January. Of course, much of that sales success is attributable to Toyota's clever marketing. Two years before introduction, Toyota began educating consumers about the Prius. The company established a website to distribute information and also sent e-brochures to 40,000 likely buyers just before the introduction. Within two weeks, Toyota sold 1,800 cars based on the email message.

In all, Toyota spent €15 million in 2002 promoting the Prius. There were print ads in magazines, but the bulk of the campaign was in television advertising. Ads running before the actual introduction used the tag line 'A car that sometimes runs on gas power and sometimes runs on electric power, from a company that always runs on brain power'. These ads helped to position Toyota as an 'environmentally concerned' company and more subtly stressed the technology aspect of the car. After introduction, the ads appealed more to emotion, with tag lines such as 'When it sees red, it charges' – a reference to the car's recharging at traffic lights. The headline captured the consumer's attention through ambiguity. Only through focusing on the ad could the consumer learn why the headline was accurate. Again, the appeal is based on the technology of the car. Finally, Toyota took advantage of Earth Day to send out green seed cards shaped like Toyota's logo to prospective buyers, wrapped some Priuses in green, and gave away cars at Earth Day events.

Of course, €15 million is just a drop in the ocean compared to Toyota's overall marketing budget of €200 million in 2002, but Toyota was satisfied with the effectiveness of the campaign, given the 'newness' of the car and the need to explain its technology.

Much of this success can also be attributed to the narrow targeting of the ads. The company expected the first hybrid car buyers to be 'techies' and early adopters (people who are highly likely to buy something new). They were right. Many Prius owners are immersed in the technology. They flood chatrooms with discussion of the car. The Priusenvy.com website urges owners to 'Kick some gas'.

Owners immediately began tinkering with the car's computer system. One owner was able to add cruise control (an option not offered by Toyota) by wiring in a few switches in the car's computer system. The founder of priusenvy.com worked out how to use the car's dashboard display screen to show files from his laptop, play video games, and look at rear-view images from a video camera pointed out of the back of the car. One Austrian consumer installed a sniffer – a device on the car's computer network that monitors electronic messages. With the sniffer, he

will be able to hook up add-ons such as a MiniDisc Player, an MP3 player, a laptop computer and a TV tuner. In the past, owners using mechanical skills customised cars with paint, lowered bodies, and souped-up engines. In the future, customisation may rely on being computer savvy.

Even though the Internet was a major part of the Prius launch, Toyota does not sell the car from its website. Buyers go to prius.toyota.com online to pick a colour and decide whether they want a CD player and floor mats – the only options available from Toyota. After that, the dealers get involved, but it takes specially trained salespeople to explain and promote the Prius. Consequently, only 75 per cent of Toyota dealers handle the car. Many of them are not happy about the need to train salespeople. And why should they be? Margins are higher on gas-guzzlers, which are also easier to sell.

Given dealer reluctance and consumer resistance, why have Toyota and Honda spent so much on their hybrids? While part of the answer is government regulations, a bigger part of the answer is competition. All car manufacturers concede that they will eventually have to move to hybrids to raise petrol mileage and lower emissions, and all of them have plans to do so. Ford, for example, plans to introduce an Escape SUV that will get 17 km/litre. DaimlerChrysler says that 15 per cent of its sport-utility vehicles will be hybrids that will get 20 per cent better fuel efficiency than conventional vehicles. General Motors is betting on hybrid buses and trucks. Toyota hopes, however, that its early entry will be the basis for a system of hybrids from ultracompact 'minicars' to luxury saloons, sport-utility vehicles, and even commercial trucks.

The mass market, however, values space, comfort, and power. Although hybrids may have space and comfort, power would appear to be more elusive. Without greater power, it will be interesting to see whether consumers, who like speed on those open autobahns and acceleration on alpine roads, will settle for a hybrid.

Questions

1. What microenvironmental factors affect the introduction and sales of the Toyota Prius? How well has Toyota dealt with these factors?
2. Outline the major macroenvironmental factors – demographic, economic, natural, technological, political, and cultural – that have affected the introduction and sales of the Toyota Prius. How has Toyota dealt with each of these factors?
3. Evaluate Toyota's marketing strategy so far. What has Toyota done well? How might it improve its strategy?

4. In your opinion, what are the advantages of Toyota's early entry into the hybrid market? What are the disadvantages? Should Toyota have waited – like Ford, GM and DaimlerChrysler?

SOURCES: 'Hit the road, tech', *Fortune* (Winter 2001), pp. 37–8; Jeffrey Ball, 'Hybrid gas-electric car owners can get income-tax deductions', *Wall Street Journal* (22 May 2002), p. D8; Jeff Green, 'Attention techies and assorted geniuses: Toyota Prius wants you', *Brandweek* (15 May 2000), p. 113; Karl Greenberg, 'A wildflower grows in Torrance as Toyota gets environmentally aware', *Brandweek* (20 May 2002), p. 42; Margaret Littman, 'Hybrid engine cars do better with hybrid marketing

tactics', *Marketing News* (25 September 2000), p. 42; John McElroy, 'A long time coming', *Ward's Auto World* (July 2001), p. 21; Margot Roosevelt, 'Hybrid power', *Time* (11 December 2000), pp. 94–5; Norihiko Shirouzu, 'Ford aims to sell a gas-electric SUV that will offer sizable fuel efficiency', *Wall Street Journal* (7 March 2000), p. A2; Sherri Singer, 'Toyota Prius', *Machine Design* (28 January 1999), pp. S52–3; Emily Thornton, 'Enviro-Car: the race is on', *Business Week* (8 February 1999), p. 74; Thomas Weber, 'Hacking your car: how auto buffs use the Net to reprogram vehicles', *Wall Street Journal* (2 July 2001), p. B1; David Welch, '46 miles per gallon 47 48', *Business Week* (14 August 2000), p. 68; 'Toyota prices', *What Car? Road Test Directory* (February/March 2004), p. 113; *What Car Buyer Guide* (March 2004), p. 253.