

The Prius Effect: Learning from Toyota

**Engaging consumers, driving profit,
and avoiding risk
through environmental strategy**

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"It runs on its conventional gasoline-powered engine until it senses guilt, at which point it switches over to battery power."

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Brand Neutral, a Los Angeles-based corporate sustainability consultancy, helps companies create and sustain a competitive advantage by reducing costs, driving profits and maximizing energy efficiency. We make saving the planet profitable for our clients, deeply meaningful for their customers, and an integral part of brand identity.

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Introduction

With environmental concerns mounting globally, business executives in every industry have been challenged to mitigate negative environmental effects and risk, and create environmental benefits, at the lowest cost to their companies.

Until recently, most corporations have approached these challenges through short-term, defensive strategies, focused on minimizing short-term risks and financial exposure and improving their public image, rather than embracing truly sustainable business practices.

Businesses have lobbied for and against regulation, enrolled in voluntary standards programs operated by industry associations or nonprofits, pursued third-party certification and labeling, made philanthropic investments in cause-related initiatives, publicly disclosed corporate social responsibility data, and pursued marketing campaigns to promote their incremental environmental gains.

These tactics have led to modest environmental progress—in a few specific instances, to significant progress. But typically, they have only postponed the inevitable.

Avoidance is no longer an option. Global climate change, carbon emissions regulation, and natural resource limitations loom on the horizon and are set to impact the financial bottom line in virtually every industry. Businesses must learn to adapt, to leverage core competencies in innovative ways, and to replicate their traditional successes in an environmentally constrained economy, or they will cede advantage to their competitors.

In this atmosphere, an increasing number of companies are beginning to take sustainability seriously, and make progress toward real change in their business philosophies and practices. Progress begins with a corporation's recognition of the problem, which impels leaders to design a solution that complements and cultivates a corporation's overall strategy and core strengths while embodying the principles of sustainability.

At companies such as General Electric and Wal-Mart, the impetus for reform has come from the top, and it has produced results. GE has looked to capitalize on its technological capabilities and "best-of-field" products to frame its busi-

ness as "Ecomagination at work." Wal-Mart has leveraged its logistics leadership and its leverage with its vendor network to cut resource consumption and costs, reduce waste, and aggressively propagate sustainable practices down through its supply chain.

Among large companies, Toyota has been particularly successful, taking an early perceived lead among competitors with the introduction of the Prius, and retaining that lead even as other companies increase their research, development, and production in the area of hybrid, electric and alternative-fuel vehicles.

Toyota's lead is not accidental. In "The Prius Effect," we analyze the specific choices that Toyota made and continues to make, which have

Toyota's success can be replicated.

helped it create and consolidate its leadership position in the area of sustainability.

In developing and marketing the Prius, Toyota has established a strong model of how to successfully align sustainable goals and values with the lifestyle needs of consumers, while drawing on its own core competencies. Toyota continues to drive revenue growth and brand equity from the Prius, which adds environmental benefit without compromising traditional product quality, including such intangible consumer values as styling, forwardness, and fun.

The six tenets we have identified as the Prius Principles are measures that any company, in any industry, can and should take into account when creating and benchmarking its sustainability program. In areas such as product design and distribution, employee empowerment and information-sharing, and overall corporate strategy, applying the Prius Principles will help ensure success. If employed appropriately, these principles can generate a similar outcome for any company in any industry.

Toyota's Success Story

"I absolutely love our Prius. In addition to being obviously economical and environmentally friendly, they drive great and are just plain sexy. There's no reason all Americans shouldn't be driving hybrid cars."

—Will Ferrell, actor

Will Ferrell's comment is representative of statements that are voiced at cocktail parties, in family gatherings, and around office water coolers across America, wherever Prius owners are present. Prius owners extol the virtues of their automobiles at length, to anyone who will listen. They post on automotive message boards, write letters to the editor, urge their friends to test-drive and buy.

Each driver defines the vehicle's merits slightly differently, but all of them use their experiences with the Prius—in an industry that has symbolized American culture since Ford's Model T—to tell a personal story that incorporates the values of environmental sustainability.

The Toyota Prius is not the only hybrid vehicle on the United States market. It was not even the first to be sold. But without question, it symbolizes hybrid vehicle technology to most American

The Prius symbolizes sustainability.

consumers. It is seen as stylishly distinct, innovative, versatile, technological, and smart, and as the emblem of environmental sustainability.

Introduction and Reintroduction

Given the current market dominance of the Prius, many people have forgotten that it was not an immediate success.¹ Developed as part of a decade-long corporate visioning process, and launched in the U.S. as part of Toyota's 2001 product line (after a 1995 unveiling and a 1997 Japanese launch), the vehicle captured the imagination of the American automotive trade journals,

¹ For a detailed review of the history, development, and engineering behind the Prius, see Gary S. Vasilash, "The Toyota Prius: The Most Important '04 Model?," *Automotive Design & Production*, October 2003.

but appealed only to a niche customer segment. A small group of ultra-green consumers and automotive innovators were the only people willing to pay a premium for a car slotted between Toyota's economy Echo and compact Corolla.

Within the first year, approximately 15,000 Prius vehicles were sold, a small number compared to almost any other automotive introduction. Uncertainty surrounded the success of the hybrid campaign and an expensive ten-year R&D program. But Toyota recognized the vehicle's societal and corporate importance, and the company remained determined to create a winner.

In 2004, a newly designed Prius was introduced to the United States—and was named the Motor Trend Car of the Year. Within a few months, the *Wall Street Journal* reported an order backlog of 22,000 units.

By 2006, the Prius was a starring character in Hollywood: George Clooney and others walked onto the red carpet from their Priuses at the Academy Awards, and the car was appearing in cameos on various television shows and movies. On *Curb Your Enthusiasm*, the Hollywood-spoofing HBO comedy series starring *Seinfeld* creator Larry David, a Prius became a recurring plot element.

Today, the backlog has increased even further, and the wait time for a new Prius can be more than six months in parts of the United States. And purchasers typically pay the full manufacturer's suggested retail price, or even a premium.

Economic Analysis

It is often assumed that the value of the Prius to consumers is justified by fuel savings, but this conclusion does not stand up to an economic analysis. It is clear that the price premium con-

Economics alone can't justify its appeal.

sumers pay cannot be explained by fuel savings alone; the customer value generated by the Prius reaches beyond pure monetary rewards.

As the table on the next page demonstrates, at MSRP prices, the federal hybrid tax rebate

renders the Prius a good choice compared to the Camry LE. However, due to the shortage of Priuses available, Edmunds's total market value (TMV) price, which averages the price consumers are currently paying for a vehicle, is a better estimate of a Prius' cost to a buyer. When comparing the Prius' TMV to the Camry's TMV, the payback for a Prius based on fuel savings jumps to 3.3 years, and in May of 2006, the tax rebate decreased by half which shifted the payback to 7.4 years. Even with a reduced tax rebate, sales have not significantly slowed.²

Table 1: Prius Consumer Economic Value

	Prius (MSRP)	Camry LE (MSRP)	Prius (TMV)	Camry LE (TMV)
Price	\$21,725	\$20,375	\$23,975	\$18,488
MPG average	55.5	28.5	55.5	28.5
Annual gas cost	\$570	\$1,101	\$570	\$1,101
Year Cost (price – gas)	\$21,091	\$20,375	\$23,341	\$18,488
Fed. Tax Incentive	\$3,150 / \$1,575*		\$3,150 / \$1,575*	
Hybrid Extra Cost or (Savings)	(\$2,330) / (\$755)		\$1,236 / \$3,382	
Fuel Savings Payback (yrs.)	N/A		3.3 / 7.4	

² Car pricing data from Edmunds.com. Gasoline price assumed to be \$2.50/gallon, average from 7/05-7/06 per US DOE EIA US Retail Gasoline Prices. Assumes annual mileage of 12,500 miles. TMV is Edmunds' "true market value," which is the average price the car is sold at in the market; MSRP is the manufacturer's suggested retail price.

The Prius Principles

In only a few years, Toyota propelled the Prius from a niche product to a symbol of environmentally responsible driving—a symbol for which consumers continue to be willing to pay a price premium.

How did Toyota accomplish this feat? What core principles did Toyota employ to appeal to the mass market? And how does a company replicate the Prius Effect?

Toyota's Prius succeeds where other products have failed because it delivers value in six distinct categories, listed in the box at lower left, which we call the **Prius Principles**.

The Prius Principles are not a recipe for success. But adhering to these principles in formulating an environmental product strategy greatly increases the chances of success, by resulting in a product and a marketing program that are honest, intellectually consistent, and genuinely supportive of customer values.

Private Benefits

A successful product, by definition, provides benefits that gratify a consumer's needs and wants. Product benefits can be intrinsic (e.g., pleasure that results from owning or using the product) or extrinsic (e.g., monetary value generated from owning or using the product). The Prius's merits exist on both dimensions and therefore extend relevance to multiple consumer segments.

The Prius Principles How does Toyota do it?

These six principles encapsulate the reasons for Toyota's successful environmental leadership. The Prius is successful because it...

- Provides **private benefits** to the customer
- Provides **public benefits** without requiring customer sacrifice
- Generates **peer-to-peer buzz**
- Is **publicly recognizable**
- **Connects the product and its use** with the private and public benefits it generates
- Reflects a **consistent corporate strategy**

The core Prius advantage is simple to understand—the car requires less gasoline to run, and is therefore cheaper to operate. Such a straightforward value proposition is not necessary for a successful product, although it helps.

The Prius delivers a significant increase in gas mileage that lowers the operational cost of an automobile and adds to a driver's disposable income. The more you drive, the more you "save."

In addition to saving money, the Prius saves time spent at the pump, creates intrinsic pride for its owner as a "responsible" consumer, and

Toyota helped the owner feel like part of the solution.

provides consumers with a role in addressing environmental concerns. The latter benefit often is overlooked by companies outside niche industries, but, with societal challenges such as global warming and foreign oil dependency becoming more prevalent, consumers increasingly want to feel like they are part of the solution, and the Prius makes this possible.

Public Benefits Without Sacrifice

For the Prius, the private benefit leads to public benefits: less gasoline use leads to less pollution, less greenhouse gas emissions, and less dependence on foreign oil. A recent survey from the University of Michigan's Transportation Research Group states car buyers consider these three characteristics, along with gas savings, the most important reasons to buy a hybrid.

It is important to note that the Prius provides these public benefits without requiring private sacrifice: it is a hybrid car, but it meets or exceeds the standards set by conventional automobiles, so customers who choose the Prius do not feel they are giving up benefits such as performance or style.

It has been amply demonstrated that the majority of consumers will choose "green" products only if they are substantially equivalent to, or better than, the conventional alternatives. However, green products that meet or exceed the standards of substitutes may be able to charge a

premium, and this appears to apply in the case of the Prius.

Positive public perception awaited hybrid vehicles. Toyota and Honda (which launched the Honda Insight hybrid in 1999, before the Prius launch) positioned hybrids as the next generation of responsible driving. Immediately upon its appearance, the Prius was profiled as an environmentally-friendly, progressive, civic-minded automobile.¹

Car owners understood that driving a Prius provided a public benefit. At the same time, the Prius did not compromise quality, functionality, or safety. Ratings of the vehicle consistently rank it high on all the factors that are important to car buyers, including comfort and driving experi-

Toyota made the Prius a comfortable, driveable car.

ence. Style and power were initially a concern, but Toyota listened to customers after its initial launch of the Prius, and retooled it into a modern, fashionable car with a more-than-adequate 110-horsepower engine.²

In comparison, the hybrid Honda Insight two-door coupe looked and felt like something out of a science fiction movie. The Insight was small and impractical, demanding that its buyers sacrifice space, comfort, and appearance in exchange for high gas mileage. Customers were unwilling to do so, and the Honda Insight hybrid was discontinued in 2006.

Peer-to-Peer Buzz

To succeed, the Prius had to balance usability, compatibility, complexity, and risk from the perspective of the driver without losing the feel of a next-generation automobile. Over time, Toyota succeeded on all fronts, creating a product that drivers love to evangelize.

Surveys have shown that fuel savings, specific

¹ Note that the social good is significant, but not as large as many believe. Manufacturing the electric components, aluminum parts, and the NiMH battery pack requires a significant amount of energy. Toyota's lifecycle assessment shows that the amount of energy required to manufacture a Prius is higher than that of a similar gasoline powered vehicle, although the lifetime energy savings pays back this initial energy overhead.

² This horsepower rating combines the output of the gasoline and electric motors, what Toyota calls "Hybrid System Net Power."

technological features, and environmental benefits are the best-liked and most-discussed attributes of a hybrid car.³ Almost every Prius owner loves to discuss his automobile, how it works, and how it makes him feel.

Every car implicitly associates its owner with a particular set of values. Owning a Prius, and

Toyota made the Prius easy to talk about.

talking about it, makes a driver look and sound smart, politically and technologically savvy, and socially conscious. This leads to a positive feedback loop, whereby the more a Prius owner talks about his car, the better he feels about it, and the more inclined he is to continue to evangelize.

To feed this cycle, Toyota humanized the new and unfamiliar technology within the Prius, by providing a clearly understandable real-time graphical display that helped the driver understand how the hybrid technology worked and how it affected the car's efficiency while driving.

They also incorporated innovative technological elements within the product's design, which generate interest in the Prius on their own merits. They preserved the traditional driving experience (steering wheel, transmission, seats, radio, and dashboard), while adding simple high-tech features such as the keyless ignition. These elements further display Toyota's engineering prowess, build brand reputation, and supply drivers with fun, buzz-worthy elements to show off to friends and family.

Recognizability

Successful brands have identities that consumers inherit by wearing, operating, or associating with the product. Labels, logos, shapes, and other unique design characteristics help consumers distinguish one brand identity from another. In its 2004 redesign, Toyota reconceived the Prius design, in a style that sets it apart from all other automobiles on the market.

As a result, the Prius is instantly recognizable. The Prius' distinctive design is thought to add to the car's appeal because it ensures the Prius will never be mistaken for a conventional automobile.

³ Survey of Owners and Shoppers," 2005. Office for Study of Automotive Transportation, University of Michigan's Transportation Research Group

This desire by Prius owners for their car to sport a distinctive design has proven to be a shared attribute among hybrid consumers: hybrid surveys reveal consumers like their hybrids to have a noticeably different design or at least reveal in some way that the car is a hybrid.⁴

In contrast, other hybrids on the market, such as the Ford Escape and the Honda Civic, are indistinguishable from conventional models except

Toyota made the Prius stylish and distinctive.

for insignia and other minor details of trim. As a result, these vehicles miss out on the badging value that comes from the Prius' distinct styling. In addition, the Ford and Honda strategies are complicated by the challenge of having to partly reposition a strong existing brand to accommodate and showcase hybrid benefits.⁵

Connection to Benefits

Toyota designed the interior of the Prius to reinforce consumer behavior, and to call attention to the product's most important differentiating quality: fuel efficiency.

Inside the vehicle, a dashboard console helps the driver understand when the two energy mechanisms (the gasoline engine and the battery) are engaged, how power is flowing, and how this affects gas mileage as the car is being driven.

For instance, if a driver accelerates quickly, the MPG meter instantly drops to 7; at cruising speeds, the MPG meter reads above 55. Upon braking, the flow of energy reverses, as the regenerative braking charges the battery.

This graphical display communicates complicated electrical concepts clearly to even technophobic consumers, and as it does so, it constantly

The Prius trumpets its benefits in real time.

connects the consumer's behavioral choices (driving technique) with the Prius' private benefits (fuel savings) and public benefits (decreased

⁴ *Automotive News*, August 14, 2006, Vol. 80, Issue 6216, p. 30.

⁵ With the Insight, Honda did attempt to develop a unique design. However, as noted above, consumers did not respond well to the specific design elements that were chosen, and the model was retired in 2006.

emissions). By showing the driver how his use of the gas and brake pedals affect gas mileage, it continually reminds the driver that fuel efficiency is as dependent on the driver as it is on the technology. And by showcasing high mileage as it is being achieved, it continually shows the driver how much more efficient and environmentally friendly the Prius is in comparison to conventional automobiles.

Consistent Corporate Strategy

Financial markets reward short-term goals, but a lasting brand innovation often takes years to develop, design, and refine. Toyota developed the hybrid engine for nine years before driving the car onto showroom floors in the United States and still sales were considered moderate, at best, in the first few years. Toyota understood the challenges associated with deploying a new technology in the market; they remained persistent, and continued to improve the features, styling, and performance of the car in response to consumer feedback.

But the Prius was more than a car to Toyota. It was a driver of a long-term evolution in Toyota's brand image. Before the Prius, when consumers thought of Toyota, the positive brand characteristics that came to mind were typically reliability,

Toyota used the Prius to drive a brand evolution.

durability, sturdiness—but (with some exceptions) typically not innovation or styling. The introduction of the Prius cemented Toyota's reputation as not just reliable, but also innovative, mechanically superior, and style-conscious.

This increased brand equity has proved

“Frankly, it was one of the biggest crapshoots I've ever been involved in. Not because we lacked confidence in the quality of the product. Or the logic of the concept. Or the significance of this breakthrough technology. The key was to convince consumers in the U.S. that hybrid technology was more than a science project. More to the point, the key would be convincing them that Prius was a real car.”

—Don Edmond, Senior Vice President and General Manager, Toyota Motor Sales, quoted in *Automotive Design & Production*, October 2003

its worth by insulating Toyota from the consequences of product recalls. In June, 2006, Toyota announced it was recalling 986,000 cars, including 170,000 Prius hybrids sold in the U.S., due to a faulty steering component. The media barely blinked at the announcement, the market did not react, and Toyota's sales performance has not been affected.

More substantively, tangential benefits from the introduction of hybrid technology emerged across the organization. Due to the unfamiliarity with new hybrid powertrain technology on the part of most independent mechanics, drivers had no choice but to turn to Toyota dealers for service. This enabled dealers to cultivate ongoing relationships with these customers and acquire a new source of revenue.

From a regulatory perspective, the hybrid's high EPA fuel efficiency rating presented two interlocking advantages, which reduced Toyota's regulatory risk while improving its competitive advantage. First, hybrid technology helped ensure Toyota's ongoing compliance with CAFE

fleet fuel efficiency standards, even as they rise.⁶ Second, the very existence of such fuel-efficient technology in a mass-market product increased the probability of legislation to raise CAFE standards, which would impose disproportionate risk on other automakers with less efficient fleets.

Finally, the Prius' technology—the electric motor, batteries and power control unit—are also essential parts of Toyota's long-term R&D strategy. Toyota is gaining valuable experience with alternative powertrain technologies, which will aid the company in successfully accommodating future industrywide shifts, such as the adoption of hydrogen fuel-cell technology.

⁶ Congress sets Corporate Average Fuel Economy (CAFE) standards for automakers selling to the U.S. market. Calculations reflect the sales-weighted average of a company's fleet fuel economy for passenger cars and light trucks.

Learning from Toyota

The Prius is an example of the enormous value a company can generate from a credible commitment to green products and green innovation.

Is Toyota a green company? Not yet. It continues to manufacture less fuel-efficient cars, trucks and SUVs.

But the Prius is more than merely one of many products that Toyota manufactures. The company has incorporated a path to sustainability into its core strategy, and the Prius is important to that path, both symbolically and substantively. Regardless of the Prius' future success, the car contributed greatly to Toyota's emergence in 2007 as the largest automaker, and it will always represent a historic step forward toward automobile emissions reduction.

Toyota achieved this position by taking sustainability seriously, at the highest levels of the company, and by developing a product that furthered all six of the Prius Principles. Almost any company, in almost any industry, can do the same by following a similar path, and drive sustainable profit through environmental innovation.