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Why Do People Buy Hybrid Cars?

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Abstract

The underlying dimensions used by hybrid and conventional car buyers to choose the type of car to buy were measured and analysed. Buyers of conventionally fuelled vehicles reported that they considered quality and performance to be the most important determinants of choice. They rated the image they get from driving a particular car and social influence as being the least important determinants of purchase. Hybrid car buyers reported opposite results, that social influence and projecting a “green” image were most important, and quality and appeal was least important. These findings provide social marketers with a crucial understanding that helps in the selection of an appropriate model to promote the diffusion of eco-friendly vehicles.
Why Do People Buy Hybrid Cars?

Consumers are buying ever larger numbers of environmentally friendly cars. Increasingly, many choose to purchase petrol-electric hybrid vehicles. In this category of “greener-cars”, Toyota’s Prius model is reported to be the market leader. In 2009-10, it was the best-selling car in Japan, an important leading market for automobile trends (Mick 2010). Sales of the Prius continue to grow despite well-publicised quality and safety problems (Mitchell & Linebaugh 2010). In fact, the demand for petrol-electric hybrids is so strong that Toyota has introduced a second and larger Camry branded hybrid vehicle into Australia. Other car manufacturers are following with their own models, indicating that there is likely to be sustained demand for this type of vehicle.

Toyota markets the Prius as an environmentally better alternative to conventional passenger cars of a similar category because it consumes less gasoline and produces lower emissions. This marketing position appears to be salient for consumers who seek to contribute to environmental causes by driving a less polluting car (Griskevicius, Tybur & Van den Bergh 2010; Bamberg 2003). Taken at face value, the strong consumer response to the marketing position for petrol-hybrid vehicles suggests that consumers are driven by intrinsic reasons for towards adopting this type of vehicle. That these consumers are willing to pay premium prices of up to $16,000 Australian Dollars more for a Prius over a comparable Toyota Corolla appears to support this conjecture. However, are intrinsic motivations the strongest reasons for consumers choosing petrol-hybrid electric vehicles? Or are there other reasons for choosing this vehicle variant? These are the questions asked in this article. To find the answer, a group of young people who were in the market to purchase cars (had money saved, were actively searching and comparing cars and were definitely going to buy a car in the next 12 months) were asked about the dimensions that they used to evaluate potential vehicles.
Previous Research and Conceptual Development

Environmental sensitivity and consumption

The currently popular paradigm for discussing the environment originated in the 1970s, when the ideas of global warming and finite oil reserves surfaced for the first time (Minton & Rose 1997; Pelletier et al. 1998). While debate continues on the veracity of these propositions, this thinking has influenced the way people live; prompting many to reduce their energy consumption and to reduce the amount of by-products that result from their consumption activities. This train of logic appears to match the popular perception of why consumers adopt products like the Toyota Prius (Jansson, Marrell & Nordlund 2009). Consumers who are disposed towards this type of consumption have been described in various ways, including environmentally-sensitive, -conscious, or as environmentalists. This group has been reported to be more positively oriented towards conservation and environmental issues than other groups of consumers (Casey & Scott 2006; Minton & Rose 1997; Stern et al. 1995).

Interestingly, consumers who reported the highest level of sensitivity to environmental issues reported driving the least and preferred using public or non-motorised transportation (Jansson, Marell & Nordlund 2009). Because of this, this group is the least likely to adopt hybrid-vehicles. Those switching to hybrid-electric vehicles would logically be less sensitive to the environment.

An area that is related to choice of car is the choice of fuel. In reality, when a consumer chooses to buy a petrol-electric hybrid vehicle like Toyota’s Prius, they are choosing an alternative-fuelled car. There was a large study of four thousand Swedish drivers who were surveyed on their level of eco-sensitivity and the type of vehicle fuel they used (Jansson,
Marell & Norlund 2009). Most of the drivers were deemed to be not sensitive to environmental issues; this group did not adopt less polluting fuels. Although this study did not specifically study petrol-hybrid vehicles (instead the majority was LPG or LNG-petrol dual-fuel vehicles), it was reported that cost and utility were the most important reasons cited for adopting these less polluting fuels. The study reported a correlation between adoption of cleaner-fuels and level of eco-sensitivity, this can only provide a description and offers little insight into why people choose more ecologically sound products. It did not measure if more eco-sensitive people were more likely to adopt “green-cars”.

The rate of adoption of environmentally friendly products has been slow (Kaplan 2000). However, there has been high adoption of Toyota’s Prius hybrid-electric car, but not other cars. This has perplexed many economists who indicate that hybrid-electric cars are not environmentally friendly compared to similar vehicles, their cost does not justify the carbon-savings (Lave & MacLean 2001, Sullivan, Salmeen & Simon 2009)) and that economic conditions in fuel efficiency, fuel prices, and vehicle costs were not optimum for such large scale adoption (Santini, Patterson & Vyas 2000). Some have suggested that this popularity is due to the effect of “going green to be seen” (Griskevicius et al. 2010), that the purchase of a Prius automobile is driven by social pressure and popularity. This finding is supported by the fact that other cars with petrol-hybrid or gas-hybrid technology is nowhere near as successful (e.g. Honda Insight). Through observation, the Prius looks different and is easily identifiable as a hybrid vehicle, while models from other makes are not visually different from cars of the same class. From the literature, it appears that adoption and switching to hybrid vehicles appears to be a complex process that is driven by many different variables. While research into hybrid vehicle adoption has only just started, there has been much research into the
adoption of eco friendlier products. From the marketing perspective, much of this research has used intrinsic and extrinsic motivations to explain the adoption process for these products.

**Consumer decision making process**

For many people, choosing an automobile is a complicated high-involvement process. Although cars are regularly used products, they are also rarely bought products. The process of actively choosing a car typically begins with wanting or needing a car (Dholakia 2001; Frey & Jegen 2001; Villacorta, Koestner & Lekes 2003). Coupled with the ability and desire to buy, the consumer is said to be “in the market” for a new car. To arrive at their final choice, the consumer will weigh and evaluate different factors. These are used to reduce their consideration sets and to establish “purchase parameters”. These evaluations then serve to find a product that best addresses these parameters. When buying cars, consumers are likely to consider cost, practicality/performance, aesthetics, the ‘lifestyle/image’ associated with some makes/models, social influence and the car’s environmental credentials (e.g. fuel economy/emissions). Consumers appear to choose by trading-off between different factors and dimensions. Intrinsic or extrinsic reasons underlie this choice and how the dimensions are traded-off. For example, a person who is buying a car to “show-off” may consider very different choice-sets compared to a person who buys a car because they truly wish to save the environment. This trade-off when making choices gives us the opportunity to study the factors that enter into the choice-sets used to purchase hybrid cars and compare them to those used to select conventional cars. At this point, it is useful to introduce the possible dimensions and constructs that consumers may use for choosing between different cars.
Intrinsic reasons for buying a hybrid-electric car

Some researchers have reported that conservation and environmentally minded consumers are driven by intrinsic motives when they choose eco-friendlier products (Chan 1996; Bamberg 2003). Taken in the context of choosing an eco-friendlier vehicle, intrinsically motivated consumers buy hybrid cars because they wish to reduce the effects of their driving on the environment. These consumers can be classified as being intrinsically motivated because they have control over their purchase decision, believe that use of a more environmentally friendly car can help them achieve their desired goal of a better environment, and have an interest in the topic of environmentalism. This was of identifying an intrinsically motivated consumer was used successfully in self-efficacy theory (Bandura 1997) and self-attribution theory (Heider 1958).

Survey research that has overtly polled consumers about their views on environmentalism and adoption of eco-friendlier products has consistently reported a positive association between adoption of these products and ecological sensitivity; those who are more ecologically sensitive reported a higher tendency to adopt eco-friendlier products (Gatersleben, Steg & Vlek 2002; Minton & Rose 1997; Anable 2005; Bamberg 2003; Hansla et al. 2008; Maloney & Ward 1973; Stisser 1994). This hypothesis was also tested in its inverse, finding that consumers who were inclined towards eco-friendlier products were also the most sensitive to the environment (Jansson, Marell & Nordlund 2009). This positive link between adopting eco-friendlier products and consumers’ environmental views have been interpreted by many (e.g. Anable 2005, Bamberg 2003) as being indicative that intrinsic motives underlie this product adoption process. An intrinsic measure of environmental sensitivity (Jansson, Marell & Nordlund 2009) asks the respondent about their personal view of the importance of the
environment. The motivation for adopting an eco-friendlier product is normally asked by having the respondent indicate the degree to which the product (e.g. car they drive) affects the environment and the personal importance of this effect. Additionally, consumers with intrinsic reasons for adopting a more environmentally friendly car are likely to worry about how the car they drive affects the environment (Follows & Jobber 2000). This leads to the first hypothesis:

**H1: Intrinsic environmental motivations (a) will be an important evaluative dimension for petrol-electric hybrid car buyers, and (b) not be important for conventional car buyers.**

When taken at face value, this positive link appears to be logical. However, a careful review of the methods of this research indicates that the procedures that have been adopted may be prone to auspicious bias, social-desirability bias and common-methods bias. Articles reporting a positive link between eco-sensitivity and use of eco-friendly products typically use overt questions to measure these constructs. This is what is normally referred to as an “unmasked survey” (Burns & Bush 2010). Using unmasked questions on this topic is likely to introduce social desirability bias because they wish to be seen as being having favourable views towards the environment. Following this, because the researchers collected information about the consumers’ environmental outlook and adoption of eco-friendlier products in the same questionnaire, common-methods bias is likely to be present (Doty & Glick 1998). A well-known artefact of common-methods bias is respondents trying to keep their responses consistent; where they use responses to earlier questions in the survey as a basis or “frame” for their answers to later questions. In this case, if a respondent has indicated, perhaps motivated by social desirability effects, that they had a tendency to be environmentally-
sensitive, they are likely to later report adopting eco-friendlier products. Together, these biases will tend to skew the findings towards a positive association between intrinsic motives for consuming environmentally friendly products. This type of effect is well-documented for consumption behaviour that carries some social desirability risk (e.g. tax returns, parents reporting the time their children go to sleep, TV watching, amount of fast food eaten, smoking). In these cases, social-desirability and common-methods biases may be compounded by acquiescence bias. This is due to the current emphasis on environmental sensitivity, a social-view that may be seen by many as being a “truism” or as being “politically-correct”. These effects may lead to many respondents to report that they are environmentally sensitive. In order to reduce the probability of social desirability and auspices biases, this research uses a masked survey and analyses the latent dimensions used by consumers when evaluating a car for purchase.

**Extrinsic reasons for adopting eco-friendly products**

Studies that have used a different method have found that being environmentally-sensitive does not necessarily mean that a consumer will purchase eco-friendlier products (Diekmann & Preisendörfer 1998; Barr 2004; Mainieri et. al. 1997). These studies have reported only a low to moderate relationship between the constructs of environmentalism and adopting eco-friendly products (Bamberg 2003). According to the results of this second group of studies, extrinsic rewards (e.g. popularity, image, status) appear to be strong drivers for some consumers to adopt eco-friendly products (e.g. Jansson, Marrell & Nordlund 2009; Stern 2000, Clark, Kotchen & Moore 2003).
In a series of experiments, where the participants were primed with a status related story, Griskevicius, Tybur and Van den Bergh (2010) found that the decision to choose an environmental friendly product depended on whether the choice enhanced the respondent’s status. Additionally, they found that participants were more likely to choose an environmental friendly product when the outcome of the purchase decision was publicly salient compared to when the purchase was made privately. Discrimination between private-public consumption increased when the eco-friendlier product cost more than the conventional product. This appears to suggest that for this group of consumers, an eco-friendly product that was publicly visible and which cost more was more attractive. The authors indicated that their results clearly suggested that this group was likely to choose an environmental friendly product if its conspicuous use would help to portray them as prosocial and unselfish. This would give them a desirable “status” in their social group. While Griskevicius et al.’s article reported a study of how status-achievement predicted purchase of green-products, it did not address the specific elements of status (image, social pressure and increased cost).

Image

The image a driver derives from using a vehicle is a complex thing to measure. For example, image has been found to correlate with the perceived quality of the vehicle, its build, whether the vehicle is perceived as boring or exciting, and the appeal of the vehicle to the driver and to others (Peracchio & Myers-Levy 1994).

Petrol-electric-hybrid passanger vehicles such as Toyota’s Prius and Camry are seen by many consumers as being environmentally friendly. Consumer behaviour literature has long and
rich history in research into the congruence between self-image and use of products/brands (e.g. Dolich 1969). This type of car is also used conspicuously by some (e.g. actors and political figures) to portray their environmental credentials. Similar to some firms with a “green” image (Rennings 2000), these public figures tend to try to cultivate a desirable public image that portrays them as being eco-sensitive. In this case, adoption of the hybrid vehicle is seen as a means to an end, a tool that helps to project a socially desirable and politically correct image (Kahle 1995). In this case, the impetus for buying a hybrid car because will necessarily be extrinsic. This observation is helped by the fact that while there are many models of petrol-hybrid vehicles in the market, the one that looks the most distinctive (i.e. most different from its conventionally fuelled counterpart) is the Prius. The Prius is the most best-selling petrol-hybrid model and also the most well-known. Other comparable models like the Honda Hybrid, which looks exactly like a Civic except for the work “hybrid” on the badge, are virtually unknown to most consumers. This leads to the hypothesis:

**H2: Image will be a more important evaluative dimension for petrol-electric hybrid car buyers compared to conventional car buyers**

**Cost**

The cost of a car includes its purchase price and running costs. In Australia, a Prius costs $16,000 more than a Corolla, which is a comparable car (Toyota Australia 2010). While a car costs more, the concept of perceived value for money is an important consideration. A buyer may feel that the Prius gives good value for money even if it is more costly because of the intangible benefits that can be derived from owning this vehicle (e.g. eco-friendliness of vehicle, image associated with the car etc.).
Running costs for hybrids are also generally higher. Industry research on purchase of conventionally fuelled vehicles (petrol and diesel) has found that in addition to the price of purchase, the costs of running a car is a prime consideration for the type of car to buy (e.g. Punj & Staelin 1983). However, in view of the positive relationship found between cost of vehicle and the social status attained by the vehicle user (Griskevicius et al. 2010), it is likely that the cost of running and buying a hybrid-electric vehicle will not enter into the evaluation sets of extrinsically driven hybrid-electric car buyers. In this case, petrol-electric hybrid cars would appear to fit the model for luxury or high-end automobiles where the cost of a car is positively associated with its perceived image (Heffner, Kurani & Turrentine 2005, 2007), the more expensive it is, the more exclusive the vehicle. Because of this, buyers of such vehicles tend to place more emphasis on image and less on cost. Therefore the next two hypotheses is:

**H3:** (a) Buying costs, and (b) Running costs will be a less important evaluative dimension for petrol-electric hybrid car buyers compared to conventional car buyers

**Vehicle performance and function**

Product performance/function includes evaluations of how the product is likely to perform (Lavidge & Steiner 1961). Utility is a common measure product performance. The consumer can evaluate performance first hand by test-driving the car or may obtain it second-hand through the media or through word-of-mouth. At the very basic level, a product should provide adequate levels of function relative to its defined role. Product function is likely to be an important evaluative factor for persons buying a car that is aimed more at utility rather than image.
The grade of a product is closely related to product performance. It is generally measured through the product’s perceived quality and attributes (Lavidge & Steiner 1961; O’Brien 1971). For many conventional cars, the determination of product-grade is likely to ultimately manifest as whether the car is a worthwhile purchase, or whether the car has the reputation of being a “lemon”. Therefore, product grade is a composite dimension between the quality and build of the car and whether the vehicle is a worthwhile purchase (Peracchio & Myers-Levy 1994). To a lesser extent, this construct may also take into account whether the vehicle is of “value for money”. This does not mean that the vehicle is “cheap”, but represents good value for the amount that the buyer expects to pay.

Because this article proposes that the purchase of hybrid-electric vehicles is dependent mainly on extrinsic motives, hybrid vehicles may value image over function. Instead, buyers of hybrids may evaluate quality in a different manner; hybrids are better quality because they produce fewer emissions. This leads to the following hypotheses:

**H4:** (a) Product quality, (b) functionality and (c) grade will be a less important evaluative dimensions for petrol-electric hybrid car buyers compared to conventional car buyers.

**Social influence**

Social influence can affect an individual’s choices (Ajzen 1991). People use specific products in order to gain admittance, fit in with, and to attain social standing within desired reference groups (Steg 2005; Heffner, Kurani & Turrentine 2007; Pelletier et al. 1998; Griskevicius, Tybur & Van den Bergh 2010). This factor has been found to be significantly stronger for
some groups of consumers (Steg 2005). Typically these consumers are described as conformists who will follow the directions and wishes of their referent groups. For example, individuals prone to social influence will feel the need to purchase a hybrid car because others have them. In a professional situation, social influence may influence the use of a hybrid because the consumer feels that it is important to have the “correct” type of car or feels that use of a hybrid vehicle is expected of them in their social role. In this case, they are likely to find it important to be seen driving a hybrid vehicle.

Social influence also acts to minimise uncertainty. Some consumers are likely to look towards their family and peers or significant others when they are not sure which car to buy (Kahle 1995). This is when word-of-mouth functions to recommend a product for purchase (Lam, Lee & Mizerski 2009). In this case, the consumer who is unsure of their choice would follow what their friends and family are doing and buy the same brand or type of car (Jacoby & Kyner 1973). By driving the same type/brand of car, the consumer achieves congruence with their referent groups, making them feel more equal to the other group members (Kressmann, Sirgy, Herrmann, Huber, Huber & Lee 2006). In following the lead of others, the consumer may feel that they will look good and have a positive image in the eyes of their significant others (Kahle 1995).

While social influence is expected to be in the consideration sets of both conventional and hybrid car buyers, social influence is expected to exert a stronger effect in the evaluation process for hybrid buyers. This is due to the image effects associated with buying and using petrol-electric hybrids. This leads to the final hypothesis:
H5: Social influence will be a more important evaluative dimension for petrol-electric hybrid car buyers compared to conventional car buyers.

We recognise that intrinsic-extrinsic motives appear to function on a continuum. Both the buyers of hybrid cars and conventional cars may experience both types of motivation. Our main aim is to contrast the motivations experienced by buyers of conventional and petrol-hybrid cars and how these motivations emerge as the salient dimensions that they use in their evaluations of their potential purchase.

Methods

Survey development

The scales and items that were used to measure the constructs for evaluating vehicle purchase were adapted from the literature. These constructs were car buyers’ attitudes on environmentalism (Jansson, Marell & Nordlund 2009), in- and extrinsic motivation to consume green products and social influence (Kahle 1995), vehicle performance and functionality (Peracchio & Myers-Levy 1994), buyers’ evaluative criteria for vehicle purchase (MacKenzie, Lutz & Belch 1986). Questions about value for money of buying a car and about running and purchase costs based on from material from Lave and MacLean (2001). Questions to assess intentions of buying a hybrid vehicle were adapted from MacKenzie, Lutz and Belch (1986). These measures were compiled into a composite model to evaluate the way car buyers evaluated these dimensions. Comparisons were made between those who
indicated intentions to buy a conventional car and those intending to buy a petrol-electric hybrid vehicle. The measures from literature were reported to be reliable with Cronbach’s Alpha in excess of .7. Our data had similarly high internal consistency, with the measures reported in this article having an alpha value of .76.

Three experts, who were government vehicle-fleet managers and who also drove a Prius as their work vehicle, reviewed, evaluated and pre-tested our pencil and paper survey. They commented on the layout, evaluative dimensions for vehicle purchase and the sequencing of the questions. Based on their comments, we edited the survey to increase accuracy and clarity. The final version contained 33 questions.

Survey administration

We distributed 165 self-report surveys using the snowball sampling technique in the researchers’ workplaces and obtained 157 usable replies. Respondents who were identified as “being in the market” to buy a car were asked to refer the researchers to other potential respondents who intended to purchase cars in the near future. This resulted in a sample where 53.5% of respondents were 22 to 30 years old (range 16-50+ years old) and 58.9% were female. The number of successful interviews appears high because we pre-qualified respondents by asking them three filter questions. The referred respondent was first asked if they were actively looking and evaluating a vehicle. If they said yes, we measured their intention by asking if they had saved-up to buy the vehicle. If the respondent said yes, to this second question, we then asked them when they intended to buy the car. Only those intending to buy in the next year were interviewed. While we did not keep records of how many people
did not pre-qualify, the researchers estimated that every other person they were referred to did not qualify for the survey.

These respondents were asked to indicate their preferred choice of car, 8.6% of respondents (n=12 of 138 intending to buy a car) indicated that they were strongly considering buying a hybrid car. In view of the range of automobiles available in the market, this appears to be a high percentage. Our respondent group at 8.6% is higher than the 2.2% market share enjoyed by all types of hybrid vehicles, and the 5.3% intending to purchase hybrids in the US – the largest market for hybrids (Duffy 2010). This group of intending hybrid car buyers reported significant positive associations with environmental sensitivity (Correlation Coefficient=.83; p<.05).

**Analyses**

This article uses an established way of testing the order and importance of the evaluative dimensions for vehicle purchase. Using factor analysis, the way buyers of conventionally fuelled cars evaluated cars for purchase was compared to those used by petrol-electric hybrid vehicle buyers. This field-survey and latent analysis method has not been used in this area. Previous studies had used economic elasticity manipulations (Lave & MacLean 2001) stimulations (e.g. Santini et al. 2000), and qualitative interviews (Griskevicius et al. 2010).

The data was split into groups, those respondents who stated a preference for petrol-electric hybrid and those who preferred conventionally-fuelled vehicles (c.f. Clark, Kotchen & Moore 2003). Two models using exploratory factor analysis with Varimax rotation were specified. When specifying factorial models using the enter method, factors with the strongest variance are entered into the model first, followed by weaker factors. This avails the opportunity to
observe the importance of the factors that are used for evaluating automobile purchase
between the two groups of buyers (Hair et al. 1998). Additionally the items that load to make
up each factor will give an indication of how each factor is constructed in the respondents’
minds.

Results and Discussion

Two models were specified using exploratory factor analysis with Varimax rotation. These
compared Conventional car buyers (model 1) and Hybrid car buyers (model 2) on the
elements that entered into their consideration when evaluating their automobile purchase.
Factor analysis is appropriate because it can reveal the way buyers organise their evaluative
items during the decision making process. These are portrayed as constructs that are called
factors. The analysis can also sort these factors according to their relative strength, implicitly
ranking the relative importance of each set of factors (Hair et al. 1998). In Table 1, the factors
used to evaluate conventional cars (Model 1) explained 90.8% of the reasons (variance) for
choice. The items in Model 2, where respondents only evaluated hybrid cars, explained 77.9%
of the variance. A significant result for Bartlett’s test for sphericity (model 1=.02, model
2=.004) indicated that the variables were uncorrelated in the population matrix (Hair et al.
1998). This meant that the strength of the correlations between the variables is strong and that
factor analysis is can be used to analyse this data.

As expected, many of the same items loaded on both models, but in different dimensions and
with different degrees of importance. In model 1, buyers of conventional cars evaluated five
factors while hybrid car buyers used three dimensions for evaluation (model 2). Between the
two models, the importance of the dimensions was reversed. Buyers of conventional cars
placed more importance on performance and less on social-image factors. Buyers of hybrid cars valued social-image factors more than the quality and appeal of the car.

Table 1
Factorial models comparing consideration sets of buyers for conventional versus petrol-electric hybrid cars

<table>
<thead>
<tr>
<th>Items</th>
<th>Model 1 factors Conventional car buyers</th>
<th>Model 2 factors Hybrid car buyers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product quality</td>
<td>.90</td>
<td></td>
</tr>
<tr>
<td>Worthwhile product to buy</td>
<td>.78</td>
<td>.93</td>
</tr>
<tr>
<td>Hybrid costs more than normal cars</td>
<td>-.89</td>
<td></td>
</tr>
<tr>
<td>Value for money</td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td>Mediocre/exceptional product</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Poorly/well built</td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td>Expected to drive hybrid in professional role</td>
<td>.90</td>
<td></td>
</tr>
<tr>
<td>Appealing/unappealing product</td>
<td>.84</td>
<td></td>
</tr>
</tbody>
</table>
| Hybrid buyers did not consider purchase and running costs in their decision making process, but costs were among the most important items evaluated by buyers of conventional cars. To rule out socio-demographic reasons that may lead hybrid buyers to be insensitive to costs, we performed a co-variance check by comparing the income and demographics of respondents from both models 1 and 2. We found no significant differences.

Hybrid buyers reported that peer and family opinions, and
whether driving a hybrid gave them a “green image” as being most important. This suggests that hybrid buyers use the car to gain acceptance-into and to fit-in-with these reference groups. This observation appears to be further supported by the questions, “I need to buy a hybrid because others have them” and “(It is) Important for me to be seen driving an environmentally friendly car”, loading together as a significant factor called “Green Image” for hybrid buyers. These items failed to load for buyers of conventional vehicles (model 1). This suggests the impetus for buying a hybrid vehicle, at least for the respondents in model 2 of this study, is extrinsically motivated by their need for acceptance by their referent groups.

If hybrid car buyers are heavily influenced by referent groups of family and peers, and they obtain extrinsic social rewards from driving a hybrid, then they may be buying a hybrid “for show”. This theory is supported by the conspicuous absence of questions seeking to measure intrinsic reasons for buying a hybrid car loading in the models. While intrinsic reasons were not expected to be salient for buyers of conventional cars, many of the articles reviewed here reported that it was intrinsic motivations that drove the adoption of hybrid vehicles and other eco-friendly products. It was reasoned that more people are becoming environmentally aware and, as a result, are buying hybrid cars. Our findings do not support this view. We find that intrinsic motivations do not enter into the evaluation sets of hybrid car buyers. The results suggest that hybrid buyers may portray themselves as being more environmentally sensitive than they really are and chose to drive a hybrid to advertise this sensitivity. As Barr (2004) noted, “…it might be stated that some of us are environmentalists, but the rest of us know how to sound like environmentalists” (p. 246). It is also possible that by choosing an eco-friendlier vehicle, hybrid buyers have already accounted for their eco-sensitivity. However, our results fail to support this as the questions measuring intrinsic motivations did not enter into their consideration sets.
Limitations and Conclusion

This article has reported the results of an investigation into the latent dimensions used to evaluate car purchase by consumers who were considering buying a hybrid-electric car. These dimensions were compared to a group of respondents who were thinking of buying a conventionally fuelled vehicle. These two groups of car buyers were actively evaluating automobiles for purchase in the next twelve months. We found that people choosing hybrid vehicles evaluated the purchase differently from buyers choosing conventional vehicles. At least in this sample, hybrid buyers were mainly concerned with whether the car would improve their social standing and personal image. This finding is consistent with that reported by Griskevicius, Tybur & Van den Bergh (2010). Buyers of conventional cars were more concerned with the car’s functionality, cost and quality and were less concerned with the car made them socially popular.

Although the sample consisted of many university graduates, the sampling was done in the workplace. It just happened that many of the researchers’ colleagues were graduates. This population was young (22-30) and were the prime market for automobile manufacturers.

It appears that hybrid cars, at least for our sample, appear to be purchased for social and reasons and not by people who genuinely care for the environment. This finding is reasonable as other research (e.g. Heffner, Kurani & Turrentine 2007) have reported that the most environmentally sensitive consumers preferred to abstain from driving. Our sample of hybrid car buyers is highly influenced by their reference groups. These groups seem to dictate the consumption behaviour of Prius buyers.
This strong influence of groups can be utilized by social marketers to shift social behaviour and increase adoption of more environmentally friendly cars. In this case, a suitable model appears to be the diffusion of innovations model. Although rarely used by social marketers (Lefebvre 2000), this model can be used to promote the orderly adoption of hybrid vehicles. The way hybrid automobiles are bought, driven by social influence, provides positive answers to four areas necessary for successful diffusion of an innovation (Oldenburg, Hardcastle & Kok 1997). These are, does it fit into the audiences’ lifestyle and self-image? Is the new behaviour better than current behaviour? Can it be trialled before commitment? Can it be easily and clearly understood? Finally, can the behaviour be adopted with minimal risk?

This externally motivated group (perhaps early adopters) can be influenced to achieve a critical mass of adoption for low-emissions vehicles. Social marketers can do this by using reference group appeals. In this case, it is important to achieve a salient positioning for the concept of low-emissions vehicles so that it appeals to more than one agency, and to later adopter groups that may be less prone to social influence (see results for buyers of conventional cars). It is expected that in order to achieve widespread adoption, the agencies that must be influenced include the customer, policy makers (e.g. government and regulators) and the community at large. It is only with this acceptance that the utilisation of low emissions vehicles will reach a critical point that it provides a positive effect on the environment.

However, the second proposal we have is that although individuals indicate that they have “green” values and attempt to demonstrate their “greenism” by participating in proenvironmental purchasing behaviours (i.e. purchasing the Toyota Prius), in fact, they are not really “green” or environmentally-friendly and that it is all for show (Heffner, Kurani & Turrentine 2005; Heffner, Kurani & Turrentine 2007). They are extrinsically motivated by the acknowledgement of peers that they show a level of concern for the environment and are doing their bit to save the environment.
The link between environmentally friendly beliefs and consumption appears to be tenuous (Maloney & Ward 1973; Gatersleben, Steg & Vlek 2002). It has not been substantiated. No empirical evidence, only anecdotal accounts.
References


