GREEN-PRODUCT BRAND STRATEGY IN JAPANESE MANUFACTURING AND CONSTRUCTION INDUSTRIES

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Abstract

This paper shows that green-brand companies tend to be evaluated environmentally higher than other companies, and that a significant relationship is found between green-product brand strategy and green-corporate brands in Japan.

As well as the voluntary demand stemming from increased environmental concerns, the political approach, such as the Green Procurement Act, has enlarged the Japanese green-products market. Since companies also have begun to supply green products aggressively, the supply of green products itself becomes nonsense to differentiate from other companies. To establish a competitive advantage in the green market, a company has to choose a strategy that creates additional demand by means of the brand environmental value of its green products.

Among the manufacturing industries and construction industry companies listed on the First Section of the Tokyo Stock Exchange (TSE)—919 companies as of July 2001—30 percent of the companies already supply green products. These companies correspond to 61 percent of the firms that disclose information on environmental activities. The pulp and paper industry, besides “others” in the manufacturing sector, show a high green products supply ratio. Products that become costly in terms of environmental friendliness should apply the branding strategy of their environmental values. Currently, 11 percent of the manufacturing and construction companies listed on the First Section of the TSE, or 36 percent of the listed companies supplying green products, apply green branding.

1. Introduction

In order to improve environmental problems, it is important that the supply of environmental friendly products—green products—to the marketplace be sufficient. Nowadays, green consumerism of each business and private sector, and among consumers themselves, is a major trend stemming from a background of sharply increased environmental concerns. In addition, the Green Procurement Act, enacted in April of 2001 in Japan, is regarded as having raised demand for green products through promoting green procurement by public institutions.

Not only should companies follow expansion of the green products market passively, they should develop the market proactively through educating customers to recognize the greenness of products as added value. One solution is to establish the environmental value of a product as a brand, which customers can recognize, then supply the product as a highly value-added one, including the value into its price. Branding of environmental value is considered a contribution to strengthening of corporate competitiveness. In establishing such brand strategy, it is important to have a consensus of evaluation of environmental value between suppliers and customers, first.

The environmental value of products would be classified into “value for the earth environment” and the “user benefits.” The former is the benefit for entire ecosystem in terms of reducing the burden on the earth environment through the use of green products. The latter could be classified into direct value and indirect value for users. Direct value is that which a user derives such as a cost saving or safety through the use of green products. Examples, here, are the use of energy-saving products, refill containers, or products made only of non-toxic materials. Indirect value is that where a user received no direct benefit, but can regard value as a contribution toward improvement of the earth environment, or benefits for others or descendants. Products made of recycled materials or low-emission vehicles can be considered examples.

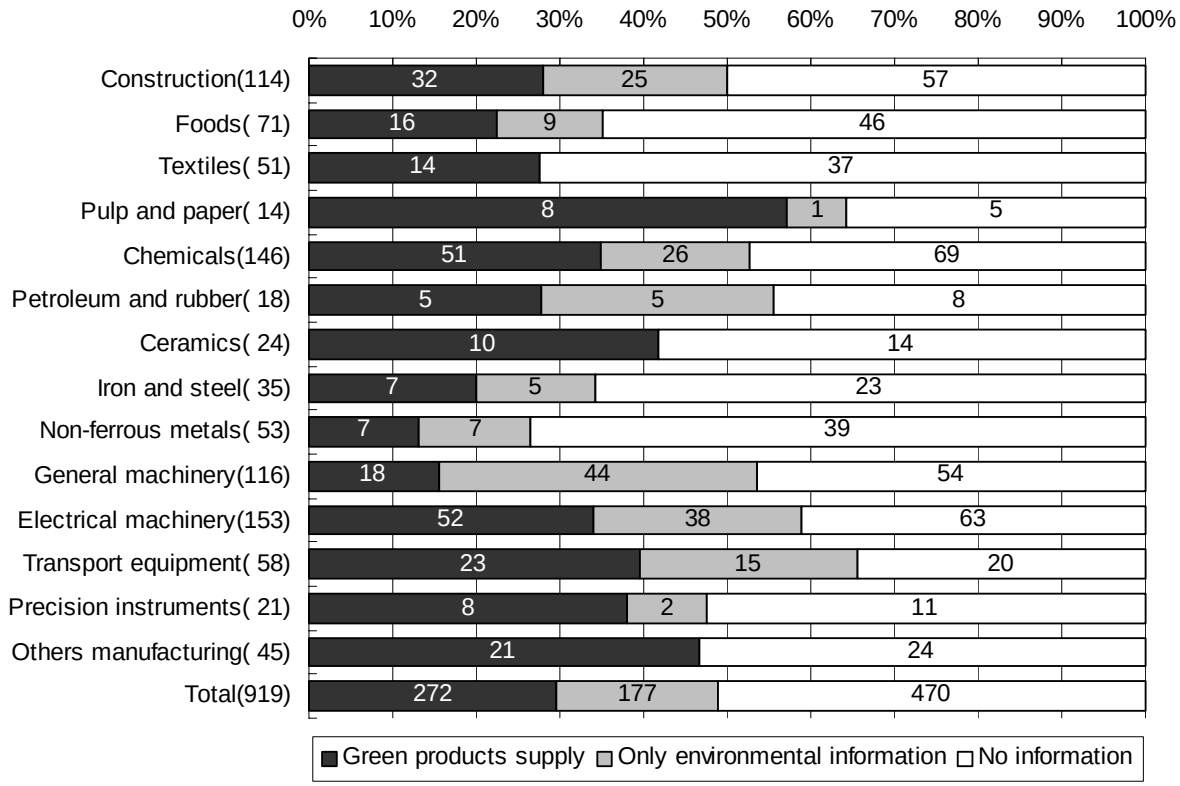
This paper focuses mainly on product brands that show benefits from the attributes of the products themselves, and examines the evaluation of environmental value as well as the validity of the supply strategy of green products. It aims to provide answer to questions that may arise if green products have been introduced in the market in a way that appropriately reflects environmental value and effective branding strategy.

2. Current status of green products supply from manufacturing and construction industries

Since the term “green products” has no strict definition, there are a variety of types of green products that companies supply to the market as products falling under this category. While this paper regards green products according to the claims of companies and does not aim at evaluating the greenness of each product, it does exclude products for environment preservation, such as recycling equipment, pollution control equipment, and so on. In other words, the focus is on products that are not used mainly for environment preservation, but on products designed to reduce the environmental burden in comparison with traditional ones.

How many companies supply green products in the market? In this study, which focuses on Japanese manufacturing and construction industries listed on the First Section of the TSE, the current status of green products supply is investigated. The survey uses information disclosed through company Internet websites as of July 2001. At that time, 919 out of 931 (98%) companies listed on the First Section of the TSE had websites. Hereafter, the 919 companies are regarded as a sample size. The reason for using website information is because the information is disclosed to the general public, a form of disclosure that is now common.

Fig. 1 shows the result of the survey on the disclosure of green products as announced by the companies. A total of 272 (30%) companies announced their green products on their websites. This also corresponds to 61 percent of the 449 companies that disclose some aspect of their environmental activities or provide environmental information. Regarding differences among types of industries, the pulp and paper industry (57%) has the highest ratio of green products supply, followed by “others” in manufacturing (47%), the ceramics industry (42%), and transport equipment (40%). On the other hand, the non-ferrous metals industry (13%) has the lowest ratio, followed by general machinery (16%) and the iron and steel industry (20%). Additionally, regarding the ratio of companies supplying green products among the companies that announce environmental activities, textiles, ceramics, and “others” have a 100% ratio, i.e., all companies in these industries that disclose environmental information on the supply of green products. Conversely, general machinery (29%), non-ferrous metals (50%), and petroleum and rubber (50%) have a small ratio.



* Number in parenthesis shows sample size of each industry

Fig. 1 Green products supply of manufacturing and construction industries

3. Establishment of green-product brand strategy

3.1 Importance of brand strategy

If a company wants to maintain or strengthen its competitiveness in the growing green product market, it should take notice of the importance of brand strategy in the supply of its green products to the market. Indeed, many Japanese manufactures recently are designing or planning to design green products, and are trying to rebuild the framework of their management structure considering the development of green products as a priority. However, if a company goes about this passively against the background of market growth promoted by policy, such as the Green Procurement Act, it can be regarded only as a catch-up strategy aimed at avoiding the risk of lost competitiveness. In order to strengthen corporate competitiveness, a company should adopt a leading strategy that addresses the additional demand created through branding the environmental value of its products.

Successful branding of the environmental value of products would consist of three steps. First, a customer recognizes the environmental friendliness of a product as added value. Second, the customer evaluates the value. And finally, the customer decides to purchase the product. Such successful “green” brands would allow green products to be purchased over others, especially in the case of the same price. But even should the price of a green product be higher than that of other products with the same functions, except for environmental consciousness, the customer would choose the green product, as long as the price gap is less than the added value that the customer evaluates. Thus, appropriate evaluation of environmental value and achieving a consensus are vitally important in the planning of green product brand strategy.

3.2 Cost for greenness and business strategy

Before a company tries to introduce a product into the green market, it must choose a business strategy considering the cost for greenness of the product. Fig. 2 shows the concept of business strategy considering the matrix of level of greenness and cost.

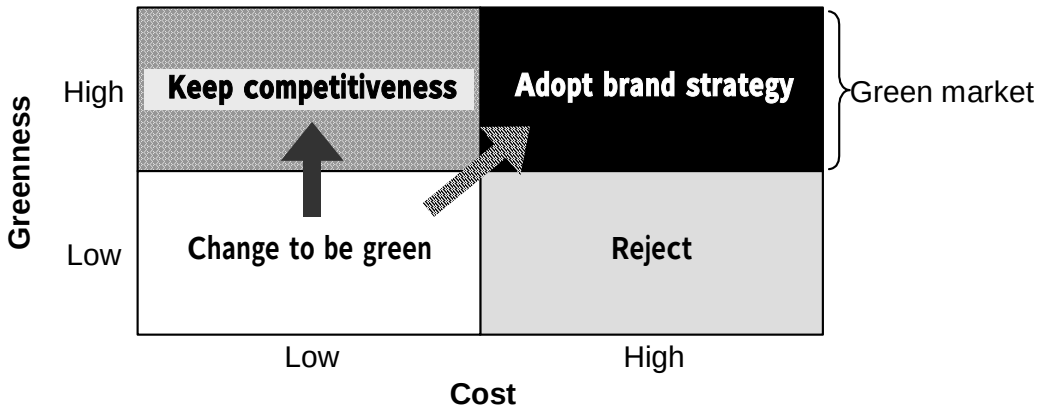


Fig. 2 Green products supply of manufacturing and construction industries

When a product with low greenness enters the green market, its attributes should be changes to high greenness. If a low-greenness product is priced low, it stands a chance of being competitive even though additional investment is necessary to improve its greenness. However, if the price is already high and greenness low, green-market entry strategy should be rejected, because it would not be unable to bear the additional cost.

In the case of high-greenness products, two strategies would correspond to the cost. That is, while the low-cost green product already has competitiveness, the high-cost green product should adopt brand strategy to survive in the market. Examples are refill type products, such as shampoo and detergent, which have high greenness with a low-cost advantage for consumers. On the other hand, the cost of products using recycled materials is likely to be high. These kinds of products need branding. Moreover, energy-saving products would bring a direct benefit to customers in terms of energy-saving cost, but the price of the products is often higher than that of ordinary ones. In this case, the supplier should consider brand strategy.

3.3 Characteristics of green product brand strategy

It is noted that brand strategy of environmental value would be different from usual brand strategy, shown in Fig. 3. Normal product brand strategy aims to establish competitive superiority over ordinary products and achieve high profitability in terms of price premium, increased market share, brand loyalty, and so on. On the other hand, the primary purpose of green product-brand strategy would be regarded as covering the cost increase or the profit loss. In other words, this strategy aims to offset the competitive inferiority over ordinary products by means of branding, and then seeks to achieve competitive superiority if possible. As mentioned above, some green products have no or little competitive inferiority on a profit basis. For such green products, brand strategy would bring strong competitiveness.

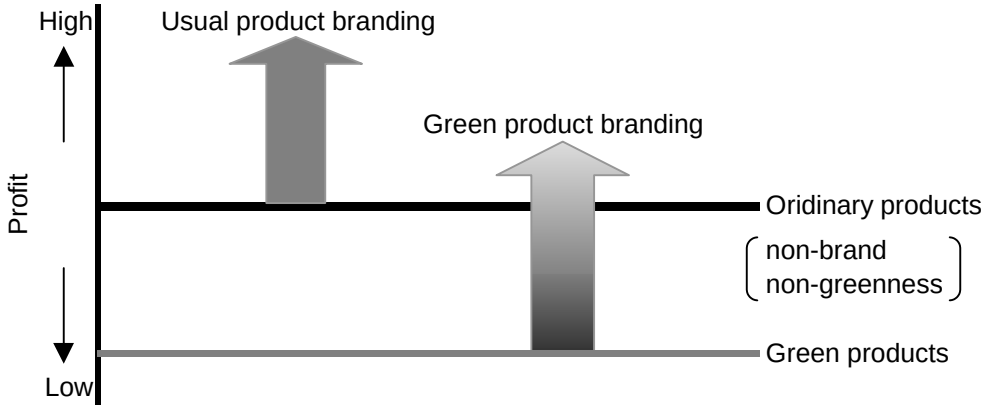


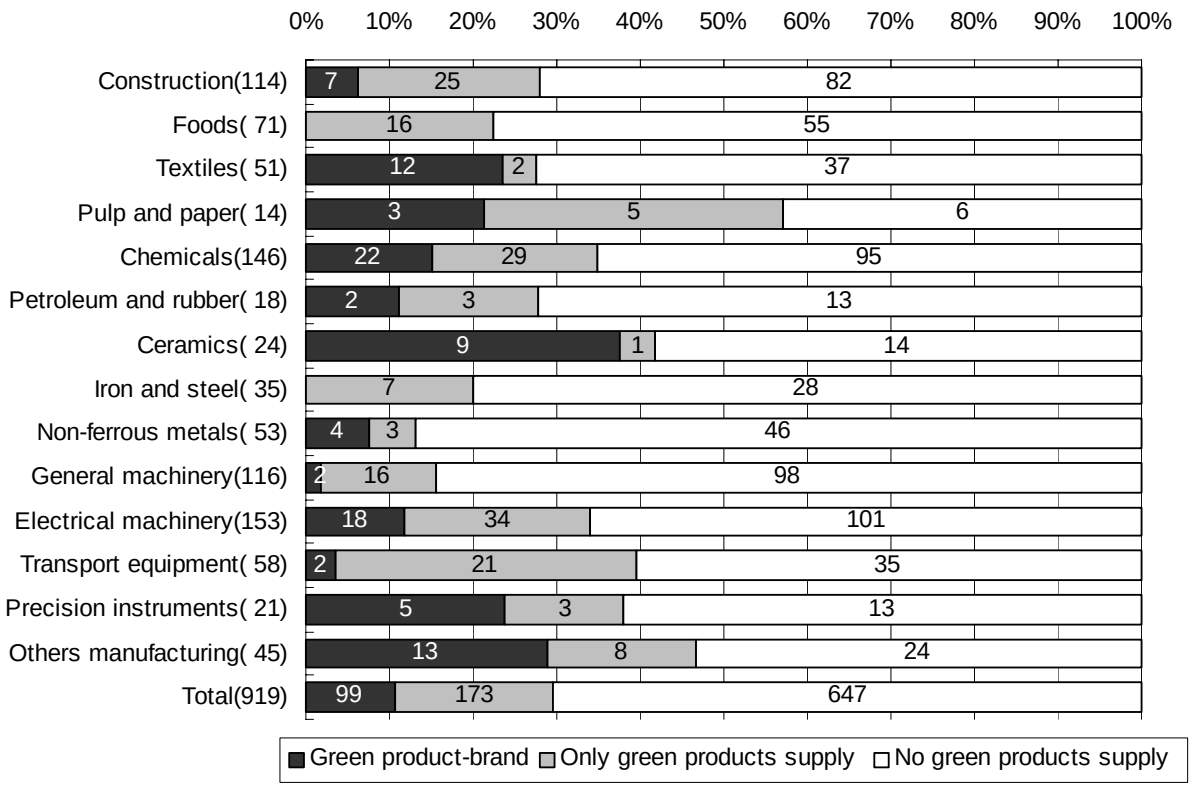
Fig. 3 Difference between ordinary products and green products brand strategy

Green product brand strategy would have two different types of approaches. One with the idea to strengthen an original product-brand by means of reflecting environmental value in the product brand. This approach is popular in the case of a model change, to accentuate energy saving, to reduce use of materials with a high environmental risk, and recyclable designs, compared with to a previous version. The other approach is the idea to establish an independent “green brand” that primarily presents the greenness of the product or product lines. This approach would be adopted when a company intends to introduce a new category of green products in its product line-up, for example, development of a new products line using recycled materials and so on. In the following sections, mainly the latter approach is the focus of discussion.

3.4 Current status of green product branding in manufacturing and construction industries

As for the 919 companies in the manufacturing and construction industries referred to in the former survey for green products supply, the current status of green product branding is surveyed. This survey regards only green branding when an independent green brand is established for green products or a green product line. Here is no consideration given for the number of green brands or the number of product categories covered by the green brand of each company. Fig. 4 indicates that 99 companies have adopted a green product brand strategy. This represents 11 percent of all sampled companies and 36 percent of the companies that supply green products.

Regarding differences among the types of industries, the ratio of companies that adopt green product brand strategy among the listed companies, the ceramics industry (38%) shows the highest ratio, followed by “others” in manufacturing (29%), precision instruments (24%), textiles (24%), and pulp and paper (21%). On the other hand, no companies in the foods industry and the iron and steel industry have introduced green branding products yet, and general machinery (2%) and transport equipment industry (3%) have quite a low ratio. In addition, regarding the ratio of the green branding among companies supplying green products, the ceramics (90%) and textile (86%) industry show especially high ratios. In these industries, It seems that it is easy to establish a green product brand upon completion of design.



* Number in parenthesis shows sample size of each industry

Fig. 4 Green product brands of manufacturing and construction industries

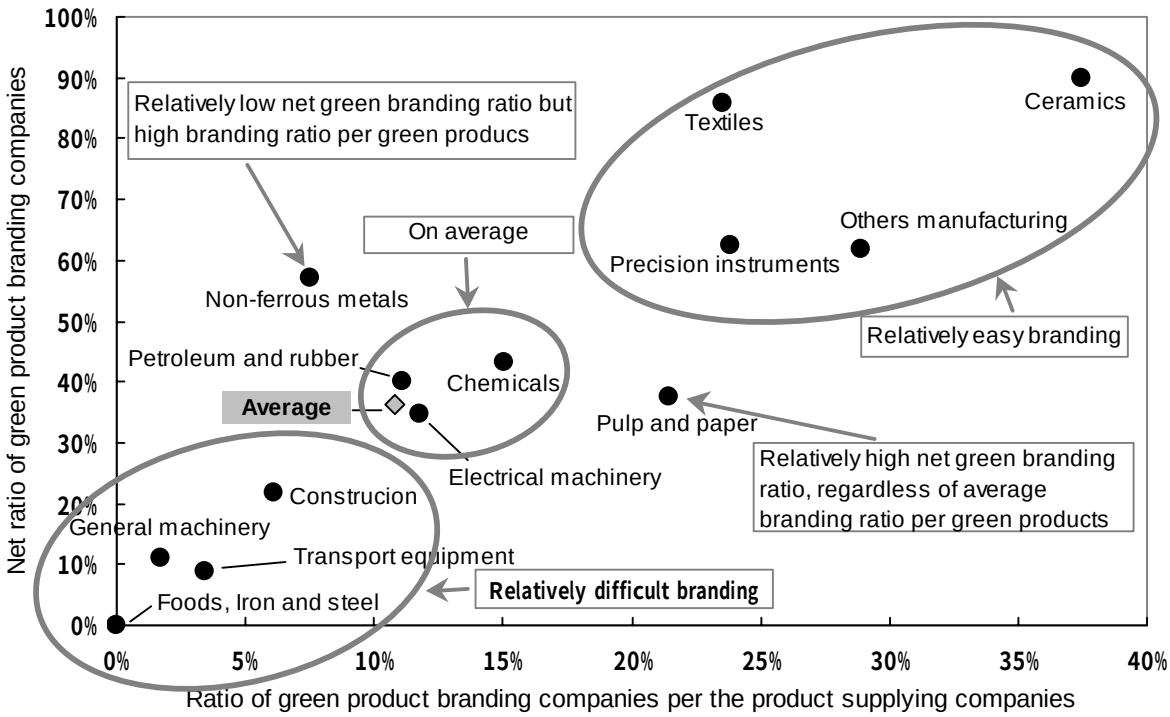


Fig. 5 Net green branding ratio versus green branding ratio per green product supply

Fig. 5 shows the industrial characteristics of the net ratio of green product branding companies versus the ratio of green product branding companies per product-supply company. On the whole, it is found that an industry with a high net ratio of green product branding companies tends to have a high ratio of green product branding companies per product-supply company. For example, ceramics, “others” in manufacturing, textiles, and precision instruments industries would be able to create a green product brand relatively easily and most of their green products have a green brand. On the contrary, foods, iron and steel, general machinery, transport equipment, and construction industries would face difficulty in creating a green product brand in general, and even if they could supply green products, it seems difficult to create a green brand for these products. In addition, chemicals, petroleum and rubber, and electrical machinery industries could be regarded as average for both ratios. Furthermore, the other industries show unique tendencies of the relationships between these ratios. The non-ferrous metals industry shows a relatively low net ratio of green product branding but has a high green branding ratio if green products are supplied. On the other hand, the pulp and paper industry has a relatively high net green branding ratio, regardless of average branding ratio per supplied green product.

3.5 Contribution of green product branding on corporate branding

It was also analyzed whether the green product brand strategy contributes to the green corporate brand, which presents the corporate reputation for environmental friendliness. This analysis was done by means of comparing the corporate environmental brand score among the groups of different product brand strategies. As for the corporate environmental brand score, the environmental evaluation score of the Second Environmental Brand Study of Nikkei BP Environmental Management Forum (2001) is used. This study was a questionnaire sent to two groups: consumers and businesspersons. As for the product brand study, the sample of 919 companies previously mentioned is divided into three groups: companies with a green product brand (group A), companies with non-brand green products (group B), and companies with no green products (group C). In addition, the sample size of the Second Environmental Brand Study is 479, and some companies are excluded from this comparison analysis, because they are listed only in either study and not both. Therefore, the appropriate sample size comes to 281 for this study.

Table 1 shows the mean environmental scores of each corporate group. Group A, consisting of 73 companies, shows the highest mean score both for consumers (39.0) and businesspersons (47.3). Group B (101 companies) follows group A for consumers (33.4) and businesspersons (41.5). And, lastly, group C (107 companies) shows the lowest mean score both for consumers (31.6) and businesspersons (38.9). Table 2 shows the result of a t-test in order to confirm if the above differences in environmental score among the three corporate groups is statistically significant. Under a 5 percent significant level, this test shows that the difference in environmental scores is significant between group A and B, as well as between group A and C. However, there is no significant difference in environmental scores between B and C. And both the consumer and businessperson survey present similar results.

Corporate group	Green product supply	Green product brand	Sample size	Environmental score			
				Consumers		Businesspersons	
				Mean	Standard deviation	Mean	Standard deviation
A	Yes	Yes	73	39.0	10.5	47.3	11.7
B	Yes	No	101	33.4	12.6	41.5	13.5
C	No	No	107	31.6	12.4	38.9	11.7
Total			281	34.2	12.3	42.0	12.8

Table 1. Environmental score of corporate group

Corporate group	Consumers				Businesspersons			
	Mean	t-value			Mean	t-value		
		A	B	C		A	B	C
A	39.0		**3.181***	**4.287***	47.3		**2.987***	**4.724***
B	33.4	**3.181***		**1.035**	41.5	**2.987***		**1.522**
C	31.6	**4.287***	**1.035**		38.9	**4.724***	**1.522**	

* P<0.05

Table 2. T-test of mean environmental score of corporate group

These results would lead to the following conclusion. A company that has green product brands (group A) tends to receive a higher recognition of its corporate environmental friendliness than a company that doesn't have such brands (group B and group C). And if a company supplies green products but doesn't create a green brand (group B), the company cannot differentiate its products from those of a company that doesn't supply green products (group C), with regard to corporate reputation for greenness.

While further detailed factor analysis would be necessary for further discussion of the difference in environmental scores, it is clear that the company with green product bands is highly reputed for its corporate greenness. In other words, when a company considers a product strategy to improve its corporate brand in the field of environmental activities, the company should not only supply green products, but also should adopt a green product brand strategy.

4. Conclusion

As mentioned in this paper, nowadays approximately 30 percent of Japanese manufacturing and construction companies, listed on the First Section of TSE, supply green products. And less than 40 percent of these green products supply companies create green product brands. Besides, it is implied that such green product brands contribute to establishing a green corporate brand as well. These findings clarify that green product brand strategy is already a useful business strategy but many companies fail to recognize the fact.

The next step for a company that recognizes the importance of green product brand would be to proceed with its green product brand strategy effectively. For example, customers don't seem to receive sufficient information from companies with regard to the environmental value of green products. Especially, companies tend to overlook environmental value in terms of indirect user benefits that customers take seriously. Needless to say, if a company seeks to improve the competitiveness of its products in the green market, it should consider establishing its product brand strategy in harmony with the product's environmental attributes and the customers' needs. To support the company's action, it would be necessary to develop synthetic evaluation methods of the environmental value of products, as well as to disclosure method-of-evaluation information.

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