Determinants Of Brand Equity In Green Products: The Relationships Among Green Brand Image, Green Trust And Green Satisfaction

Arzu Deniz, Leyla Onder
Assistant professor at Giresun University, Turkey
Faculty of Economics and Administrative Sciences
Assistant professor at Ufuk University, Turkey
Faculty of Economics and Administrative Sciences,

ABSTRACT: Green marketing conception which has become popular recently guides firms and consumers to fulfill their environmental responsibilities. On one hand green marketing practices provide an opportunity for the firms to create trust and satisfaction by building a positive image and enhance the brand equity. Brand equity is essential for green products as for other products. From this point of view in this study, brand image, brand trust and customer satisfaction related to the brand equity of products/services are investigated in terms of green products and tried to determine the relationships among them. According to the results green brand image and green satisfaction effect green trust for white goods sector. Furthermore green satisfaction and green trust affect green brand equity

Keywords: Green marketing, Green brand equity, Green brand image, Green trust, Green Satisfaction

I. INTRODUCTION

Ever-increasing environmental awareness of consumers has made firms approach the issue in a more sensitive way. Today environmental responsibility consciousness has become a value shared by manufacturers and consumers. Manufacturers should produce the products which are environment friendly, recyclable and save energy and apply more environment friendly policies in all practices in order to leave a better world to the future generations. Likewise, consumers act more consciously in making decisions on buying products, even more pay for environment friendly products and so fulfill their environment responsibility. The conception of green marketing which emerged within this scope guides the firms. The environmental firms create a brand equity by strengthening their images and gaining a different position on the minds of consumers. Brand image, brand trust and brand satisfaction concepts relevant to the brand equity have been examined extensively and a wide number of studies has been conducted in marketing literature. In this study, brand trust, brand image and satisfaction concepts which can be considered drivers of brand equity were investigated in terms of environment friendly or green products/brands. Product group were selected as white goods which have become popular recently and in which environmental technologies were used intensely.

II. GREEN MARKETING

To American Marketing Association, green marketing is marketing activity of products which are environmentally reliable and combine various practices like modification, manufacturing process, packing and advertisement changes (Henion and Kinnear, 1976). In another definition, green marketing activities are defined as finding a market for green products and ideas, researching green attitude and behaviors of consumers, dividing the green market into different sections in line with consumer needs, developing green positioning strategies and creating a green marketing mixture (Jain and Kaur, 2004).

When the development of green marketing conception is examined as a concept, it is seen that it consists of a 3-step phase. The first step is “ecological green marketing”. Throughout this step, marketing activities focus on clean technologies. It is used to define certain environmental problems (environmental pollution, depletion of energy resources, etc.) and the marketing activities towards preventing these problems via available technologies. Its scope is narrow. The second step is “environmentalist green marketing”. Throughout this step, companies conduct their marketing activities on designing and developing new green products. The third step is “sustainable green marketing”. In this step, marketing activities focus on long-term
Within the last 30 years, green marketing which has been studied extensively in the form of ecological, environmentalist or sustainable marketing, is actually defined as the activity that yields the highest profit to the company. Green marketing, which is also defined as creating a positive impact on the environment and reducing the negative impact, has become an important aspect of marketing (Trott and Sople, 2016). Environmental, ethical and social responsibility perceptions of more people grow continuously. Accordingly, the sale of green products increases and consumers agree to pay more money for these products. This in an important advantage for companies to adopt the green marketing conception. Additionally, adopting green marketing offers various advantages to the companies such as being able to compete against the environmental pressures, gaining competitive advantage, developing an corporate image, searching for new markets and opportunities, enhancing product values (Chen, 2008b, Chen et.al, 2006). Despite these advantages, many companies are still not equipped with the adequate knowledge and experience to market green products. Besides some negative situations such as usage of renewable and recyclable expensive materials in manufacturing green products, requirement of huge investments in research and development of green technology, expensive waste treatment activities and unwillingness of all consumers to pay more on green products restrict companies in gravitating to green marketing activities (Chen, 2013).

III. GREEN BRAND EQUITY, GREEN BRAND TRUST, GREEN BRAND IMAGE AND CUSTOMER SATISFACTION

“Brand” is one of the concepts discussed and examined extensively in marketing literature. According to the definition by American Marketing Association, brand is a name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers (Keller, 2013). While marketing activities assist to firms positioning the products which are not different in terms of factors such as quality, functionality, effectiveness, the brands provides creating a different link and relationship with consumers. In short, while products are tangible, brands are intangible. Since they are intangible, brands offer value bundle to the consumers (Yapraklı and Can, 2009). The concept of brand equity arising at this point has become one of the concepts that has attracted the attention of both researchers and practitioners since 1980s (Avcılar,2008).

Green brand equity: The brand equity can be described as the additional value that a brand adds to the product (Azadi et al. 2015). Brand equity, the intangible brand property, is the hidden value inherent in a wellknown brand name (Yasin et al., 2007). In literature, the definitions regarding brand equity were proposed from three different perspectives. These are consumer-based, finance-based and definitions combining both. Finance-based brand equity is related to the income that will bring to the firm in the future due to the investments into the brand (Srinivasan et al., 2001). Consumer-based brand equity is defined as the sum of symbolic and functional benefits that consumers obtain as a result of usage and consumption of a brand (Vazquez et al., 2002).

The primary models about brand equity were developed by Aaker and Keller. Aaker and Keller developed a multidimensional model which encompasses four strategic dimensions which are loyalty, perceived quality, association and reputation. This model constituted the basis for scale development studies in order to measure brand equity (Brasil et al. 2015). Within the scope of this model, Aaker described brand equity as a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and to the firm’s customer (Aaker, 2001).

Keller analyzed brand equity with a strategic point of view. Marketing strategies create a brand awareness which results in changes in repurchases, perceptions, and preferences among the consumers in the short-term. However, it does not affect the thinking of the consumers in the future and long-term performance of the company. According to Keller, awareness and image development depend on the experiences of the consumer about the brand at each contact point and the relationship of the consumer with other consumers (Brasil et al., 2015). In other words, brand equity can be defined as the differing impact on the reactions that consumers make about the marketing of a brand, which can vary in line with knowledge about the brand. This impact is determined by comparing the reactions that consumers show regarding the marketing activities of the well-known brand with the reactions that they show against the activities of an unknown brand to market a product (Keller, 1993).

constitute the basis of the brand equity. Therefore, it is necessary to assess these dimensions creating the brand equity together with the factors affecting consumer perceptions, purchasing attitudes, habits etc. In this study, it was aimed to describe the brand equity and the concepts associated with brand equity such as brand image, brand trust and satisfaction in terms of green products. Based on the definitions of the brand equity, green brand equity is described as a set of brand assets and liabilities about green commitments and environmental concerns linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service (Chen, 2010). In this study, green brand image, green brand trust, and green customer satisfaction concepts were discussed as the drivers of green brand equity.

**Green brand image:** Brand image encompasses the symbolic meanings related to specific features of the brand and is defined as a consumer's mental picture of a brand in the consumer's mind that is linked to an offering. Another definition says that brand image is referred to as a set of perceptions regarding a brand reflected by brand associations for consumers (Cretu and Brodie, 2007, Padgett and Allen, 1997). Brand equity is derived from the overall brand image created by the totality of brand associations, perceived by customers (Bendixen et al., 2004, Michell et al. at al. 2001). The power and uniqueness of brand associations are the dimensions that differentiate brand knowledge which plays an important role in determining the different reactions creating the brand equity (Keller, 1993). Based on these definitions, the green brand image could be defined as a set of perceptions of a brand in a consumer’s mind that is linked to environmental commitments and environmental concern (Chen, 2010). Green brand image is more important for companies especially under the rise of prevalent environmental consciousness of consumers and strict international regulations of environmental protection (Chen et al. 2006).

**Green brand trust:** Trust is considered a significant factor in establishing a relationship in relational marketing literature (Delgado-Ballester and Munnuera-Aleman, 2005). Trust is defined as a degree of confidence related what others will behave in line with what is expected from them and its one of the remarkable topics that draws attention in marketing literature. Because, trust is evaluated as a strategic activity in marketing field and it’s an important component in the success of relationships (Hart and Saunders, 1997, Flavian, 2005). Brand trust influences the decision of purchase (Gefen and Straub, 2004). Complete trust in a brand refers to the customers that it is probable for the brand to gain positive value. Analyzing brand trust as an expectation is related to the belief of the customer that the brand is reliable, honest and responsible (Doney and Cannon, 1997). Considering the companies that offer green products, green trust can be designated as a willingness to depend on a product or service based on the belief or expectation resulting from its credibility, benevolence, and ability about environmental performance (Chen, 2013). Some companies may lose the trust of customers since they offer confusing or misunderstood green promises and exaggerate the environmental value of the products. Therefore, trust is a significant factor also for green products (Kalafatis and Pollard, 1999).

**Green customer satisfaction:** In addition to trust and image, customer satisfaction is another factor that creates a competitive advantage to the companies in relation to brand equity. Shortly satisfaction is defined as a comparison of customers’ expectations and perceptions would result in either confirmation or disconfirmation (Oliver, 1996). According to a different definition, Satisfaction is the degree of overall pleasure or contentment felt by a consumer, resulting from the performance of the product to fulfill the consumer’s desires, expectations, and needs (Mai and Ness, 1999). Customer satisfaction affects the purchase intentions and repurchase behaviors of the customers (Martenson, 2007, Chang and Tu, 2005). Moreover, Satisfaction for a brand would impact positively on the strength and favorability of associations toward it in its consumers’ mind (Pappu and Quester, 2006). Within this scope, green satisfaction can be defined as a pleasurable level of consumption-related fulfillment to satisfy a customer's environmental desires, sustainable expectations, and green needs (Chen, 2013).

### IV. RESEARCH METHODOLOGY

**The aim of the study**

The aim of the study is to evaluate the factors affecting brand equity in terms of green products and determine the relationships among them. As for the brand image, brand trust and customer satisfaction variables related to brand equity were analyzed. Previous studies have paid great attention to explore the relevant issues of brand image, satisfaction, trust, and brand equity, none explored them about green or environmental issues in Turkey. Therefore this study wanted to fill the research gap. White goods sector was selected because a vast majority of customers use these products in their daily lives. Additionally this sector gets enriched in terms of brand and models every day, underlines the sustainable consumption and environment in the advertisements and uses new technologies protecting the environment in manufacturing.

The scope of the study consists of consumers aged 18 or above living in Ankara, Turkey. The results obtained from the study cannot be generalized to other product groups.
Research framework

Research framework is in Figure 1.

Hypothesis of the Study

The following hypotheses were proposed in line with the aim and model of the study:

H$_1$: Green brand image effects green customer satisfaction.
H$_2$: Green brand image effects green brand trust.
H$_3$: Green brand image effects green brand equity.
H$_4$: Green customer satisfaction effects green brand equity.
H$_5$: Green brand trust effects green brand equity.

Data Collection and sample

Data were collected via questionnaire survey. The questions in the survey form aimed to determine the attitudes of the participations towards the green brand image, green brand trust, green satisfaction and green brand equity of the white goods brand they use. These items was by use of five-point Likert scale from 1 to 5 rating from “strongly disagree” to “strongly agree”. The scales used by Yu-Shan Chen’s studies (2010, 2013) were employed to measure these variables.

The main sample of the study is composed of the consumers aged 18 and above who live in Ankara, Turkey. Convenience sampling method was employed as the sampling method. A total of 400 survey forms were administered and 381 were included in the evaluation upon eliminating the survey forms filled in incompletely and wrongly.

V. RESEARCH FINDINGS

The study utilized SEM to verify the research framework and hypotheses, and applied LISREL 8.51 to obtain the empirical results. At the first phase of the analysis, since t value which indicated the relationship between green brand image and green brand equity is negative, it was excluded from the study. The results of the structural model are presented in Table 3.

Table 3. The results of the structural model

<table>
<thead>
<tr>
<th>Indexes</th>
<th>Pre-Modification Values</th>
<th>Post-Modification Values</th>
<th>Acceptable Fit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square (X²)</td>
<td>249.57</td>
<td>185.07</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>61</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>(X²)/df</td>
<td>4.09</td>
<td>3.70</td>
<td>1-5</td>
</tr>
<tr>
<td>p-value</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.106</td>
<td>0.099</td>
<td>0.05≤RMSEA≤0.10</td>
</tr>
<tr>
<td>NFI</td>
<td>0.87</td>
<td>0.90</td>
<td>0.90≤NFI≤0.95</td>
</tr>
<tr>
<td>CFI</td>
<td>0.92</td>
<td>0.95</td>
<td>0.95≤CFI≤0.97</td>
</tr>
<tr>
<td>GFI</td>
<td>0.88</td>
<td>0.90</td>
<td>0.90≤GFI≤0.95</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.82</td>
<td>0.85</td>
<td>0.85≤AGFI≤0.90</td>
</tr>
</tbody>
</table>
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As seen Table 3, the overall fit measures of the model is very good (RMSEA=0.09, NFI=0.90, CFI=0.95, GFI=0.90). Path Coefficients, t, R² values and error variances of the factors included in the research model are shown in Table 4.

Table 4. Path Coefficients, t, R² and error variances of the Factors in the Research Model

<table>
<thead>
<tr>
<th>Latent Variable: Green brand image (α=0.78)</th>
<th>P.C.</th>
<th>E.V.</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed Variables</td>
<td>t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the brand is trustworthy about environmental promises</td>
<td>10.70</td>
<td>0.65</td>
<td>0.39</td>
</tr>
<tr>
<td>the brand is professional about environmental reputation</td>
<td>5.36</td>
<td>0.81</td>
<td>0.12</td>
</tr>
<tr>
<td>the brand is successful about environmental performance</td>
<td>8.61</td>
<td>0.82</td>
<td>0.16</td>
</tr>
<tr>
<td>the brand is well established about environmental concern</td>
<td>10.60</td>
<td>0.67</td>
<td>0.22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Latent Variable: Green satisfaction (α=0.72)</th>
<th>P.C.</th>
<th>E.V.</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed Variables</td>
<td>t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall, you are glad to buy this brand because it is environmentally friendly</td>
<td>4.32</td>
<td>0.86</td>
<td>0.12</td>
</tr>
<tr>
<td>I think it is a right thing to purchase this brand because of its environmental performance</td>
<td>4.05</td>
<td>0.87</td>
<td>0.12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Latent Variable: Green brand trust (α=0.81)</th>
<th>P.C.</th>
<th>E.V.</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed Variables</td>
<td>t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I think that this brand’s environmental commitments are generally reliable.</td>
<td>6.95</td>
<td>0.83</td>
<td>0.12</td>
</tr>
<tr>
<td>I think that this brand’s environmental performance of this brand is generally dependable.</td>
<td>8.94</td>
<td>0.76</td>
<td>0.18</td>
</tr>
<tr>
<td>I think that this brand's environmental argument is generally trustworthy.</td>
<td>8.29</td>
<td>0.79</td>
<td>0.13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Latent Variable: Green brand equity (α=0.74)</th>
<th>P.C.</th>
<th>E.V.</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed Variables</td>
<td>t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It makes sense to buy this brand instead of other brands because of its environmental commitments, even if they are the same.</td>
<td>10.44</td>
<td>0.58</td>
<td>0.48</td>
</tr>
<tr>
<td>Even if another brand has the same environmental features as this brand, I would prefer to buy this brand.</td>
<td>3.86</td>
<td>0.88</td>
<td>0.21</td>
</tr>
<tr>
<td>If there is another brand's environmental performance as good as this brand's, I prefer to buy this brand.</td>
<td>8.83</td>
<td>0.70</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Table 5 shows path coefficients, t, R² values and variances of the factors remained in the full model.

Table 5. The Relationships Among the Factors Included in the Research Model

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>P.C.</th>
<th>R²</th>
<th>E.V.</th>
<th>t</th>
<th>Hypothesis</th>
<th>Proposed effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green brand image – Green satisfaction</td>
<td>0.58</td>
<td>0.34</td>
<td>0.66</td>
<td>8.50</td>
<td>H₁&lt;sup&gt;+&lt;/sup&gt;</td>
<td>+</td>
</tr>
<tr>
<td>Green brand image – Green trust</td>
<td>0.57</td>
<td>0.33</td>
<td>0.67</td>
<td>8.45</td>
<td>H₂&lt;sup&gt;+&lt;/sup&gt;</td>
<td>+</td>
</tr>
<tr>
<td>Green satisfaction – Green brand equity</td>
<td>0.19</td>
<td>0.62</td>
<td>0.38</td>
<td>2.79</td>
<td>H₄&lt;sup&gt;+&lt;/sup&gt;</td>
<td>+</td>
</tr>
<tr>
<td>Green trust – Green brand equity</td>
<td>0.53</td>
<td>0.62</td>
<td>0.38</td>
<td>6.09</td>
<td>H₅&lt;sup&gt;+&lt;/sup&gt;</td>
<td>+</td>
</tr>
</tbody>
</table>

According to results in Table 5, four paths estimated are significant. This study found out that the brands with high levels of green brand image enhance their green satisfaction and green trust. Additionally that brands with high levels of green satisfaction and green trust enhance their green brand equities. Therefore H₁, H₂, H₄ and H₅ are supported in this study. On the other hand the t value between the green brand image and the brand equity was negative at the first phase of the path analysis, H₃ hypothesis isn’t supported. The results of the full model in this study are shown in Figure 2.
VI. CONCLUSION AND RECOMMENDATIONS

According to the results of this study, brand image affects the customer satisfaction and brand trust for green products. Additionally, customer satisfaction and brand trust regarding green products positively affect the brand equity.

Green marketing is dividing the green market into different sections in line with consumer needs, developing green positioning strategies and creating a green marketing mixture. Green products demand is on increase because of ethical and social responsibility perceptions of the consumers enhance continuously. Additionally, consumers adopt environmentalist applications and agree to pay more for green products. So companies should adopt green marketing applications in order to satisfy this demand and compete with environmental pressures.

“Brand” is of vital importance in terms of the product image and position in consumers’ mind for the companies that carry out green marketing activities. For this reason, it would yield advantages for the companies to develop brand equity-enhancing strategies regarding how the consumers perceive the brand. Brand equity refers to the sum of symbolic and functional benefits that consumers obtain as a result of using and consuming the brand. Additionally, this concept is associated with the factors including brand name, symbol, awareness, and image. According to the result of the study, brand image in green products positively affects green customer satisfaction and green brand trust. Brand image is defined as a consumer's mental picture of a brand in the consumer's mind that is linked to an offering. Professional reputation regarding environmental issues and a successful environmental performance of the brand creates a positive brand image. A positive brand image raises the customer trust in the brand and also ensures satisfaction. Therefore, the companies that provide green products should occupy a correct position in the minds of the consumers by explaining their products efficiently via advertisements and other promotional activities. It must be ensured that the consumers have a positive image perception regarding the brand by providing clear information which is not open to misunderstandings and confusions. What’s more, it is possible to create a positive image in the minds of the environmentally sensitive consumers by taking part in various environmental sponsorships.

Positive brand image leads to brand trust. Trust is an important component in the success of strategic relationships. The link between the consumer and brand is also a strategic one. The strength of this link has to do with the brand trust. Green brand trust means relying on the trustworthy of a good or a service regarding environmental performance. It is an important expectation from brands to practice what they promise. It is possible to enable consumers to trust green brand if the brands stay away from green promises being misunderstood and if they promote the green products without exaggerating their environmental features. It is necessary to convey to the consumers correctly via communication efforts that the products are genuinely environment friendly. The consumers will trust in the brand when the companies are reliable and honest regarding their environmental promises. In addition, according to results brand image affects the green satisfaction too. The consumers purchase the brand if the company has environmental sensitivity and fulfills its
environmental responsibilities. Also, consumers are satisfied when their environmental desires and green needs are met. Since consumer satisfaction affects repurchase intention and behavior, it is also an important concept for green products. The results also manifest that the more customers trust and are satisfied with the green products/brands, the more valuable the brand is. The positive green brand image that the company creates increases the brand trust and satisfaction and this helps the brand be preferred more than its rivals. Since the customers are satisfied with and trust in the brand, they prefer that brand despite the existence of different environmentally successful firms.

Finally, this study was conducted on the consumers using white goods in Ankara. Therefore, the results can be restricted to these products and this country. So that further studies can focus on the purchase experience of other products in other countries and compare with this study. Besides, the present study analyzed the brand image, trust and consumer satisfaction variables related to brand equity in terms of green products. Brand equity is related with many concepts. Further studies might analyze the concepts such as perceived value, risk, loyalty, awareness which can be associated with brand equity of the green products. Finally, these authors hope that the research results are helpful to marketing managers, researchers and governments.

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