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The Impact of Brand Crisis on Consumers' Green Purchase Intention and Willingness to Pay More

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Abstract

The purpose of the study is to develop an original framework to explore the effects of brand crisis on green purchase intentions and willingness to pay more. This study composes of seven original concepts, which are perceived brand crisis, green brand image, green trust, green brand equity, green perceived value, green purchase intentions and willingness to pay more to develop an integrated model. For this reason, an online survey was carried out in testing the model that includes questions measuring the effects of these variables. Smart PLS structural equation modelling is applied to verify the research framework. A total of 504 questionnaires were collected from Turkish consumers living in Turkey. According to the findings acquired from the structural equation modelling, there is an impact of the perceived brand crisis on green brand image, green trust, green brand equity and green perceived value. Consequently, green brand equity and green perceived value except for green brand image and green trust influence the green purchase intention. Moreover, green purchase intention affects willingness to pay more. Existing studies have shown that perceived brand crisis affects the brand equity, brand trust, brand image, perceived value and purchase intentions. However, there is not any research to shed light on the impact of perceived brand crisis on green brand equity, green brand image, green trust, green perceived value, green purchase intention and willingness to pay more. Therefore, this paper develops a research framework to fill the research gap.

Keywords: brand crisis, green purchase intentions, willingness to pay premium, Turkish consumers

1. Introduction

A German car maker had installed the defeat software that produces up to 40 times more pollution than allowed. The car maker intentionally installed turbocharged direct injection diesel engines to activate certain emission controls only during laboratory emission testing. Once on the road, the software switches out of this test mode. This software is defined as 'defeat device' by Clean Act Air. The car maker put this programming in about eleven million cars worldwide in its 2009-2015 models. After explaining this event on Sep. 18, 2015, the car maker recalled the millions of cars and halted sales of some models in Australia. Switzerland banned the sales of the company's diesel cars. Authorities in many countries were highly concerned about cheat device in diesel cars and they launched investigations into the crisis. It is a clear fact that the company has been negatively affected by this crisis in terms of sales, image, trust and so on (The Guardian, 2015).

Since negative brand information will cause negative impact, the exposure of negative information about a brand damages intangible assets such as brand trust and brand image as well as financial loses. The fear and doubt buyers feel toward a brand in crisis negatively affect their purchase intentions (Park & Lee, 2013). However, the carbon emission crisis is different from other crisis in that the crisis has also polluted environment, not only defective device. The second important point is that the car maker has 'intentionally' programmed this defeat software. As far as we are concerned, there is no research in developing an understanding of the effect of brand crises on green brand equity, green brand image, green trust and green purchase intentions. This study aims to fill the research gap. Therefore, the carbon emission crisis of the company X was used as a case. Considering these points, this study aims to contribute to literature by investigating whether brand crisis affects the green brand image, green trust, green brand equity, green perceived value; and whether these four concepts influence green purchase intention and accordingly willingness to pay premium.

2. Literature Review and Hypothesis Development

2.1 Perceived Brand Crises

In the literature, brand crises are well-publicized claims of unsubstantiated or untrue brand propositions, which cause damage to brands (Dawar & Lei, 2009). According to Haiying & Guoliang (2012), brand crisis is a kind of event that consumers become suspicious and make negative judgment on the brand. If there is a potential threat of the brand, customer behaviour is affected by this and brand crisis may emerge. However, one of the key points in the crisis studies is that the crises are different from each other and, very different types of brand crises cause different damage to the brand. For example, incidents such as milk powder scandal in China, recall of millions of Toyota cars, Tylenol poisonings are called product-harm crises. Product-harm crises are defined as "discrete, well-publicized occurrences wherein products are found to be defective or dangerous" (Dawar & Pillutta, 2000). This kind of crisis also poses a serious risk to company's tangible and intangible assets (Haas-Kotzegger & Schlegelmich, 2013).

As can be seen from the literature, a crisis has the potential to damage a brand quickly and always occurs unexpectedly. Therefore, companies, even the greatest companies, can be damaged by brand crises. This type of crisis can cause serious damage to brand trust (Dawar & Pillutta, 2000; Ping et al.; 2014; Dutta & Pullig; 2011; Dan, 2011), brand equity (Van Heerde et al., 2007; He & Run, 2015; Ahluwalia et al., 2000; Park & Lee, 2013; Ping et al., 2014), brand image (Jie, 2011; Cleeren et al, 2008) and purchase intentions (Ping et al., 2014; Lin et al., 2011; Rea et al., 2014; He & Run, 2015).

When it comes to carbon emission crisis of the German car maker, cars of the company X are described as 'defeat device', which is a product-harm crisis. The second significant result of this crisis is that the crisis leads to environmental pollution, which damages the green brand factors of the company X. Based on this, this study asserts that green brand image, green trust, green brand equity and green purchase intention could be negatively affected by the crisis.

2.2 Green Brand Image

Green brand image is defined as 'a set of perceptions of a brand in consumer minds that is linked to environmental commitments and environmental concern' (Chen, 2010). Considering that consumers have become more environmentally-friendly as well as the existence of international regulations of environmental protection, green brand image is more significant for corporations. Companies struggle to improve their green brand image because it is a good opportunity to differentiate from other firms and green brand image is a crucial determinant for customer satisfaction about environmental needs and expectations (Chen, 2010). Therefore, it is expected that perceived brand crisis affects the green brand image and the following hypothesis is proposed.

H1: Perceived brand crisis negatively affects green brand image.

2.3 Green Trust

Brand trust is related to the reliability and intentions of a brand. There are two dimensions of brand trust. The first dimension refers to ability and willingness to keep promises and meet customers' expectations. The second dimension is related to good intentions of the brand with regard to customers' welfare and interest. The most crucial point of the carbon emission crisis is that company X deliberately programmed this defeat software, which damaged environment and brand trust, especially for green consumers' green trust. Green trust is defined as 'a willingness to depend on a product, service or brand based on the belief or expectation resulting from its credibility, benevolence and ability about its environmental performance' (Chen, 2010). Previous studies showed that brand crisis affected the consumers' brand trust. Based on this, this study asserts that perceived brand crisis also affects the green trust and the following hypothesis is proposed.

H2: Perceived brand crisis negatively affects green trust.

2.4 Green Brand Equity

Green brand equity can be defined 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). Considering that the number of customers with environmental concerns has been increasing day by day as well as strict international environmental regulations, green brand equity has become more important for organizations (Chang & Chen, 2014). As noted earlier, based on the information that there is a link between perceived brand crisis and brand equity, it is expected that there is also a relationship between perceived brand crisis and green brand equity. Therefore, following hypothesis is developed.

H3: Perceived brand crisis negatively affects green brand equity.

2.5 Green Perceived Value

Green perceived value is described by Chen & Chang (2012) as "*a customer's overall appraisal of the net benefit of a product or service between what is received and what is given based on the consumer's environmental desires, sustainable expectations and green needs*". Because perceived value has become more important today as well as increasing awareness on environmental threats, companies try to offer environmentally sustainable products to enhance green perceived value of their brands. Companies also can enhance consumer purchase intentions through superior product value (Cheung et al, 2015). Based on the above discussion, this study suggests that perceived brand crisis negatively affects green perceived value. Therefore, following hypothesis is developed.

H4: Perceived brand crisis negatively affects green perceived value.

2.6 Green Purchase Intention

According to Lin et al. (2011), product-harm crisis significantly influences the purchase intention because of negative publicity. Customers, especially individuals with environmental concerns, consider environmental capabilities of the firm as a social responsibility. These customers aspire to buy environmentally friendly products. Therefore, positive impacts of the company on environment can affect customers' purchase intentions (Rahbar & Wahid, 2011). Based on the above discussion, this study suggests that green brand image, green trust, green brand equity and green perceived value of a company affect green purchase intention and propose the following hypotheses:

H5: Green brand image positively affects green purchase intention.

H6: Green trust positively affects green purchase intention.

H7: Green brand equity positively affects green purchase intention.

H8: Green perceived value positively affects green purchase intention.

The willingness to pay is defined as the maximum amount of money a consumer is willing to pay for a product or service. Customers also choose the products or services that offer the maximum utility (Homburg, 2005). Especially for green products, consumers generally perceive the price as higher than conventional products (Ayadi & Lapeyre, 2014). Therefore, willingness to pay is the last assessment step before purchasing the product. To truly understand the relationship between willingness to pay and consumer purchase intention would be to use the same respondents in the survey. Therefore, the following hypothesis is developed.

H9: Green purchase intention positively affects willingness to pay more.

We propose the following model based on the above given literature. Perceived brand crisis negatively affects green brand image, green trust, green brand equity and green perceived value. Then, green brand image, green trust, green brand equity and green perceived value positively affect green purchase intention. Moreover, green purchase intention positively affects willingness to pay more. Figure 1 gives the proposed model of our study.

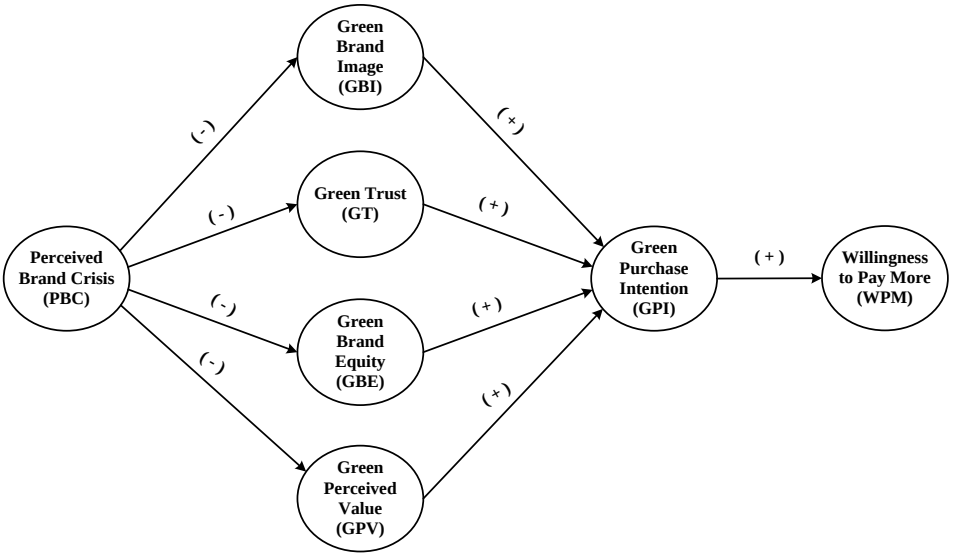

Figure 1. Proposed Research Model

3. Methodology

The respondents of this study are only Turkish individual customers. Individuals with over 18 years old were selected as sampling because they have purchasing power in their decisions. They are also aware of environmental issues. The research data were collected via an online questionnaire and SmartPLS (Partial Least Squares) structural equation modelling was used to analyse the data. The online questionnaire was active during the dates between Feb. 11, 2016 and Mar. 26, 2016 just after the crisis had revealed and discussed in media. A total of 504 individuals in Turkey took part in this study during the period. Table 1 shows the statistics of the respondents.

Table 1. Demographic and other statistics of the respondents

Gender	1- Female (40.9%), 2- Male (59.1%)
Age	1- 18-34 (70.2%), 2- 35-44 (22.6%), 3- 45-64 (6.7%), 4- 64+ (0.4%)
Profession	
Monthly Income	1- □1000-□3000 (27.8%), 2- □3000-□5000 (54.6%), 3- □5000 + (17.7%)
Education	2- High School (2%), 3- Associate Degree (4.4%), 4- Bachelor's Degree (33.5%), 5- Postgraduate Degree (60.1%)
Marital Status	
Are you aware of X brand auto emission scandal? 1- Yes (74%), 2- No (26%)	

The scales of the variables were adapted from validated scales of previous studies. Perceived brand crisis was measured with six items (indicators), and were adapted from Park and Lee (2013). Green brand image, green brand equity, green trust were measured with four items, adapted from Pui-Fong et al. (2014), Chang and Chen (2014), Konuk et al. (2015), respectively. Green purchase intention was measured with three items, adapted from Konuk et al. (2015). Finally, willingness to pay more was measured with three items, adapted from Ha-Brookshire and Norum (2011). All scale items were measured by 5-point Likert type scales denoting that 1 as strongly disagree and 5 as strongly agree. All variables and its items are given in the Appendix.

4. Results

The research model was analysed by using SmartPLS Structural Equation Modelling (SEM). It basically evaluates the measurement model and measures the coefficients of the structural model (Hair et al., 2014).

4.1 The Measurement Model Results

The model consists of five variables named perceived brand crisis, green brand image, green brand trust, green brand equity, and green purchase intention. It is important to determine the reliability and validity of the latent variables for completing the structural model. Indicator reliability and composite reliability results must be satisfactory. In addition, convergent validity and discriminant validity are also checked in examining the structural model when conducting a PLS-SEM.

In order to find the item reliability, the square of each outer loadings are calculated. The resulting coefficient of 0.70 or above is often preferred. The values of 0.40 and above are also acceptable for exploratory research (Hulland, 1999). In our model, indicator reliabilities range from 0.567 to 0.929. Only five indicators are less than 0.70. As the value of each indicator is mostly higher than 0.70, the model was accepted as reliable.

Cronbach's Alpha is classically used to measure the reliability of internal consistency. Literature suggests the use of the composite reliability instead of Cronbach's Alpha (Bagozza & Yi, 1988; Hair et al., 2012). Cronbach's Alpha is also evidence for composite reliability and the values over 0.60 are sufficient. In our model, Cronbach's Alfa ranges from 0.902 to 0.950 and composite reliabilities range from 0.927 to 0.968 which are highly over the advised limit value of 0.70. In addition, rho_A values also should be higher than 0.70. All the rho_A are higher than 0.90 values. The data represent that the measures of composite reliabilities are strong and healthy in terms of internal consistency.

Convergent and discriminant validities are examined to find the validities of the model. Average Variance Extracted (AVE) values determine the convergent discriminant and should be higher than the value of 0.5 (Bagozzi & Yi, 1998). The AVE values for each variable range from 0.681 to 0.909 which are highly over the advised limit value of 0.50. Table 2 shows the values of indicator loading and reliability, Cronbach's Alpha, composite reliability and AVE.

Table 2. The assessment of measurement model

Latent Variable	Items	Loading	Item Reliability	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Perceived Brand Crisis (PBC)	PBC1	0.889	0.790	0.908	0.930	0.927	0.681
	PBC2	0.878	0.771				
	PBC3	0.829	0.687				
	PBC4	0.804	0.646				
	PBC5	0.753	0.567				
	PBC6	0.790	0.624				
Green Brand Equity (GBE)	GBE1	0.798	0.637	0.910	0.914	0.937	0.790
	GBE2	0.933	0.870				
	GBE3	0.925	0.856				
	GBE4	0.892	0.796				
Green Brand Image (GBI)	GBI1	0.868	0.753	0.934	0.937	0.953	0.835
	GBI2	0.939	0.882				
	GBI3	0.940	0.884				
	GBI4	0.906	0.821				
Green Purchase Intention (GPI)	GPI1	0.950	0.903	0.942	0.943	0.963	0.897
	GPI2	0.964	0.929				
	GPI3	0.925	0.856				
Green Perceived Value (GPV)	GPV1	0.905	0.819	0.902	0.905	0.932	0.773
	GPV2	0.867	0.752				
	GPV3	0.900	0.810				
	GPV4	0.844	0.712				
Green Trust (GT)	GT1	0.929	0.863	0.950	0.950	0.964	0.870
	GT2	0.954	0.910				
	GT3	0.930	0.865				
	GT4	0.917	0.841				
Willingness to Pay More (WPM)	WPM1	0.951	0.904	0.950	0.951	0.968	0.909
	WPM2	0.959	0.920				
	WPM3	0.950	0.903				

In addition, Fornell and Larcker (1981) analysis is also used in discriminant validity. Table 3 demonstrates Fornell-Larcker criterion analysis for checking discriminant validity of the model. The each figure in bold showing the AVE's square root in the diagonal is greater than the off-diagonal figures in its corresponding row and column. The last column of the table indicates that if the discriminant validity is met. Table 3 depicts that all the variables meet the discriminant validity.

Table 3. Fornell-Larcker Criterion

	Latent Variable Correlations (LVC)							Discriminant validity met? (Square root of AVE > LVC?) ↓
	PBC	GBE	GBI	GPI	GPV	GT	WPM	
PBC	**0.825**							Yes
GBE	-0.270	**0.889**						Yes
GBI	-0.232	0.574	**0.914**					Yes
GPI	-0.335	0.701	0.613	**0.947**				Yes
GPV	-0.323	0.688	0.673	0.797	**0.879**			Yes
GT	-0.334	0.582	0.733	0.669	0.778	**0.933**		Yes
WPM	-0.266	0.496	0.413	0.645	0.599	0.456	**0.953**	Yes

Cross loadings table was also used for discriminant validity. Table 4 shows the cross loadings of the each indicators. As can be seen from the table each loadings of the indicators in bold are much higher than the other indicator's loadings. These results also confirm the discriminant validity of the scales of the study.

4.2 The Structural Model Results

Path coefficients or Stdβs indicate the strength of direct relationships between constructs. Bootstrapping is used for estimating the precision of the PLS estimates and causal order between constructs. Seven path coefficients were found to be significant at the 0.000 level while two were insignificant.

Table 4. Cross loadings table

	PBC	GBE	GBI	GPI	GPV	GT	WPM
PBC1	**0.889**	-0.173	-0.233	-0.270	-0.240	-0.286	-0.229
PBC2	**0.878**	-0.241	-0.211	-0.242	-0.260	-0.295	-0.242
PBC3	**0.829**	-0.320	-0.239	-0.320	-0.326	-0.316	-0.228
PBC4	**0.804**	-0.138	-0.094	-0.221	-0.214	-0.214	-0.236
PBC5	**0.753**	-0.146	-0.070	-0.179	-0.161	-0.134	-0.181
PBC6	**0.790**	-0.236	-0.209	-0.356	-0.319	-0.319	-0.195
GBE1	-0.220	**0.798**	0.529	0.570	0.649	0.519	0.391
GBE2	-0.223	**0.933**	0.511	0.666	0.627	0.540	0.469
GBE3	-0.245	**0.925**	0.508	0.642	0.601	0.517	0.439
GBE4	-0.271	**0.892**	0.498	0.611	0.575	0.493	0.460
GBI1	-0.216	0.519	**0.868**	0.527	0.560	0.612	0.310
GBI2	-0.177	0.523	**0.939**	0.529	0.592	0.669	0.350
GBI3	-0.203	0.506	**0.940**	0.578	0.644	0.679	0.400
GBI4	-0.247	0.549	**0.906**	0.600	0.656	0.714	0.440
GPI1	-0.289	0.681	0.608	**0.950**	0.750	0.642	0.601
GPI2	-0.333	0.685	0.600	**0.954**	0.764	0.661	0.639
GPI3	-0.330	0.625	0.533	**0.925**	0.750	0.597	0.592
GPV1	-0.310	0.613	0.645	0.699	**0.905**	0.739	0.473
GPV2	-0.281	0.636	0.673	0.699	**0.867**	0.757	0.456
GPV3	-0.287	0.629	0.581	0.756	**0.900**	0.674	0.581
GPV4	-0.255	0.536	0.461	0.644	**0.844**	0.559	0.603
GT1	-0.291	0.532	0.691	0.631	0.738	**0.929**	0.406
GT2	-0.293	0.547	0.691	0.618	0.730	**0.954**	0.391
GT3	-0.338	0.513	0.702	0.625	0.725	**0.930**	0.462
GT4	-0.324	0.548	0.651	0.623	0.710	**0.917**	0.439
WPM1	-0.217	0.476	0.404	0.605	0.574	0.446	**0.951**
WPM2	-0.238	0.464	0.365	0.599	0.574	0.435	**0.959**
WPM3	-0.303	0.478	0.411	0.640	0.565	0.424	**0.950**

Table 5 summarizes T statistics with Stdβ values of all path coefficients. According to the test results of T statistics, the following effects were found. Perceived brand crisis has a negative influence (β = -0.270, p = 0.000) on green brand equation. Perceived brand crisis has a negative influence (β = -0.232, p = 0.000) on green brand image. Perceived brand crisis has a negative influence (β = -0.323, p = 0.000) on green perceived value. Perceived brand crisis has a negative influence (β = -0.334, p = 0.000) on green trust. Green brand equity has a positively significant influence (β = 0.272, p = 0.000) on green purchase intention. Green brand image has not a significant influence (β = 0.062, p = 0.181) on green purchase intention. Green purchase intention has a positively significant influence (β = 0.645, p = 0.000) on willingness to pay more. Green perceived value has a positively significant influence (β = 0.522, p = 0.000) on green purchase intention. Green trust has not a significant influence (β = 0.059, p = 0.224) on green purchase intention.

Table 5. T-statistics for path coefficients

	Stdβ	Sample Mean	Standard Deviation	T Statistics	p values
PBC→GBE	-0.270	-0.272	0.050	5.444	0.000
PBC→GBI	-0.232	0.230	0.054	4.266	0.000
PBC→GPV	-0.323	-0.324	0.048	6.679	0.000
PBC→GT	-0.334	-0.334	0.051	6.530	0.000
GBE→GPI	0.272	0.276	0.046	5.890	0.000
GBI→GPI	0.062	0.060	0.046	1.340	0.181
GPI→WPM	0.645	0.644	0.034	18.835	0.000
GPV→GPI	0.522	0.521	0.051	10.167	0.000
GT→GPI	0.059	0.058	0.049	1.216	0.224

Then, the overall explanatory power of the structural model which is the variance amount explained by the independent variables was also tested as follows. R^2 is used to measure the model's explanatory power and interpreted in the same way like in regression analysis. For suitable explanatory power to qualify, the explained variation should exceed 10%. The analysis revealed in the structural model that perceived brand crisis explains about 5.4% of the variation in green brand image, 11.2% of the variation in green trust, 7.3% of the variation in green brand equity and 10.4% of the variation in green perceived value. The model also reveals that green brand image, green trust, green brand equity and green perceived value all together explains about 68.5% of the variation in green purchase intention. In addition to that green purchase intention explains 41.6% of the variation in willingness to pay more. Figure 2 depicts the structural model results.

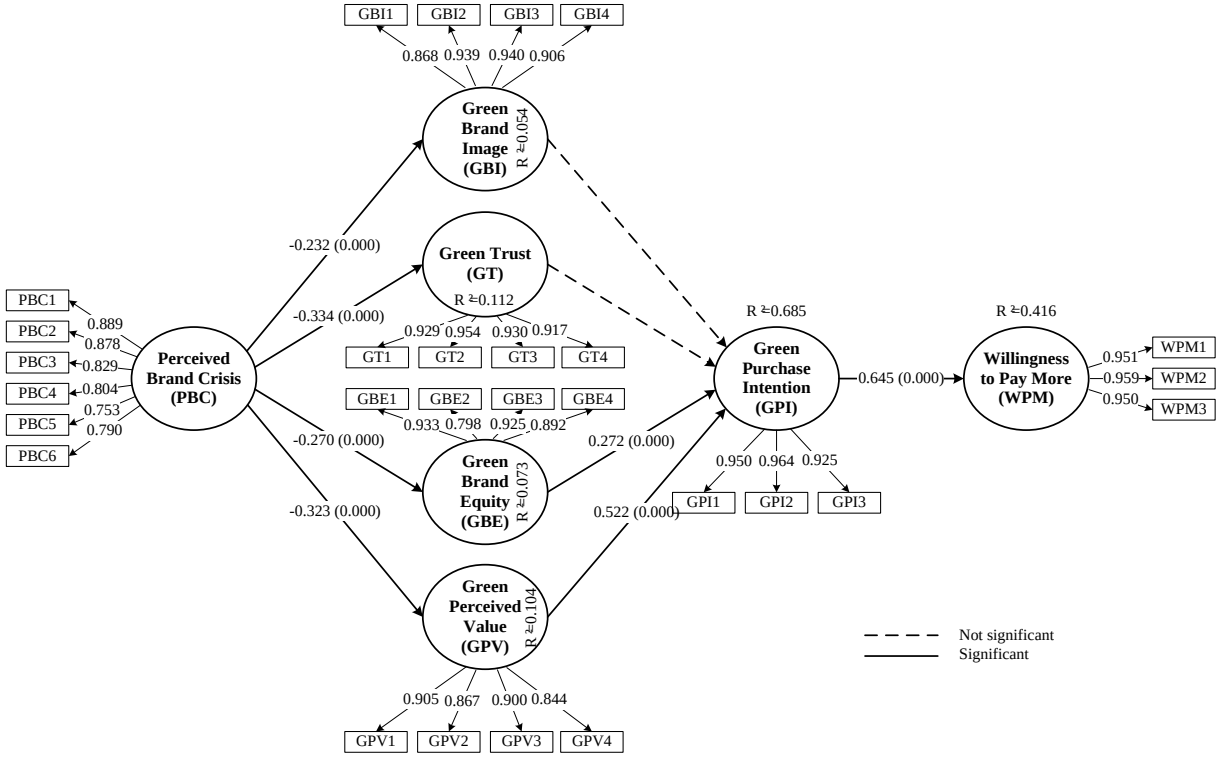

Figure 2. The results of structural model

5. Discussions

Table 6 summarizes the hypotheses and the results of the revised model, whether that hypothesis was supported or not supported. It is seen that all the hypotheses were supported except two of them.

Table 6. Hypotheses conclusions

Hypothesis	Finding	Conclusion
H1: Perceived brand crisis negatively affects green brand image.	t=4.266, p=0.000	Supported
H2: Perceived brand crisis negatively affects green trust.	t=6.530, p=0.000	Supported
H3: Perceived brand crisis negatively affects green brand equity.	t=5.444, p=0.000	Supported
H4: Perceived brand crisis negatively affects green perceived value.	t=6.679, p=0.000	Supported
H5: Green brand image positively affects green purchase intention.	t=1.340, p=0.181	Not Supported
H6: Green trust positively affects green purchase intention.	t=1.216, p=0.224	Not Supported
H7: Green brand equity positively affects green purchase intention.	t=5.890, p=0.000	Supported
H8: Green perceived value positively affects green purchase intention.	t=10.167, p=0.000	Supported
H9: Green purchase intention positively affects willingness to pay more.	t=18.835, p=0.000	Supported

5.1 Findings and Implications

This study examines the consequences of carbon emission crisis, in relation with green branding concept, to the brand of Company X on Turkish consumers. The followings were found as per proposed research model based on the branding literature. First, perceived brand crises negatively affect green brand image, green trust, green brand equity and green perceived value. As mentioned within the literature review, brand crisis can seriously damage to brand image (Jie, 2011; Cleeren et al., 2008), brand trust (Dawar & Pillutta, 2000; Ping et al.; 2014; Dutta & Pullig, 2011; Dan, 2011), brand equity (Van Heerde et al., 2007; He & Run, 2015; Ahluwalia et al., 2000; Park & Lee, 2013; Ping et al., 2014), and purchase intentions (Ping et al., 2014; Lin et al., 2011; Rea et al., 2014; He & Run, 2015). Therefore the acceptance of these hypotheses is an expected result and these findings are in well compliance with the literature for green consumers. Green consumers are also well aware of the situation and it seems that the brand suffers from this hard times. Branding crisis needs to be very well managed during such hard times. Pang (2012) underlines the different image management actions to combat image damage in the different stage of crisis life cycle in such difficult periods. These stages are defined as proactive, strategic, reactive and recovery The first stage includes creating and maintaining an image, the second stage involves strengthening and transforming image, the third stage needs working on image repair when the crisis occurs and last stage includes either image renewal or image reinvention. It is observed that all these actions were taken successfully by the brand X in every stage of the crisis. In addition, in order to lessen the difficulties the brand experienced during this period, massive advertisement campaigns were launched immediately in mass media

backed with the price discounts. This strategy was seen as successful on the consumer side.

Secondly, literature stresses that green brand image, green trust, green brand equity and green perceived value positively affect green purchase intention. According the findings of this study, green brand image and green trust unexpectedly did not influence green purchase intention in Turkey. This is incoherent with the literature. One reason could be that the powerful image of the brand is not mainly based on the green image. The brand is strong in all over the world and its country of image is also strong not only in auto sector but in engineering as well. The brand is preferred due to higher image in second hand market with its extensive nationwide service centres and its spare parts are easily accessed across the country. Moreover, green or environmental approach to the brand could be inferior especially after heavy mass advertisement with offering better sales terms. In reality, the cars of the brand are in conformity with the Turkish auto regulations. When it comes to green trust, according to a study carried out by Konuk et al. (2015) in Turkey, green purchase intentions are influenced by green trust in green white goods. At this point, there is sector difference between the Konuk et al (2015) study and ours. This study was especially selected to assess the effects of green brand variables on green purchase intentions because of the brand's popularity in Turkey. Another point could be the consumers' trust to the perception that corporate companies are sensitive to social responsibility. It seem that other factors rather than green brand image and green trust may become significant on green purchase intention.

According to the findings, Turkish consumers state that even if another brand has the same environmental performance, concerns and environmental futures as this brand X, they prefer to buy the brand X. It means that other product attributes of the brand X (such as price, durability, comfort, style, etc.) have more important in decision making process. Therefore, green purchase intention is influenced by green brand equity. In addition, according to the Automotive Distributors Association of Turkey, the brand X keeps its market leadership with the 9 month-sales in 2016 as of 89.865 automotive and light commercial vehicles. It means that, even after the crisis, the brand did not lose its popularity in Turkey. These are the positive results of the effects of other attributes of the brand and the effectiveness of marketing strategies applied before, during and after the crisis on consumers' purchase intentions. From a different point of view, different countries can respond differently to emission crisis. Although the sales of the brand dropped in some countries such as United Kingdom and USA, its results became very limited and the brand continued its leadership in Turkey. This result may also signify the other priorities that Turkish consumers have. A product's green attribute may not be more crucial than its other attributes. Therefore, marketing managers should consider these cultural differences in their marketing strategies. For example, because the sales of the brand X in Turkey does not fall severe, managers should not develop marketing strategies based only on green branding. They should also give priorities to the other attributes such as style, comfort, durability etc., which seems more important than environmental values in Turkey.

Lastly, green purchase intention positively affects willingness to pay more, which is coherent with the literature. If a consumer decides to buy a green product, they will be eager to pay more for the product. The most important point here is sensitivity and importance given to green product. Environmental values may be an added value for the consumers.

Consumers should be better informed and educated on the environmental issues not only for the health of the next generation but also sustainable development of the country. Although environmental investments are too high financially, it seems a must for the future of the country.

5.2 Limitations and Further Research

Our study does not include some demographic variables. The results may change with different age, sex, purchasing power and location. An investigation can be done on green product buyers defined by Yildirim and Candan (2015). Further topics to be investigated for the researches can be as follows. Country of origin (COO) effect can be investigated in terms of green consumptions and green customers. How other brands in the same county were affected during this period is another question. Cross country researches which will be carried out in different countries can be investigated to reveal the cultural response to such brand crisis. Turkish government prepares a new rule to collect more tax on cars. This new rule will probably account for emission limits besides engine power and the other factors. This is also another research that consumers may respond differently to such crisis when the new regulations are put into effect.

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Appendix

Questionnaire

Gender

1- Female ( ), 2- Male ( )

Age

1- 18-34 ( ), 2- 35-44 ( ), 3- 45-64 ( ), 4- 64+ ( )

Profession

1- Civil Servant ( ), 2- Employee ( ), 3- Self-employment ( ), 4- Tradespeople ( ), 5- Retiree ( ), 6- Others ( )

Monthly Income

1- □1000-□3000 ( ), 2- □3000-□5000 ( ), 3- □5000+ ( )

Education

1- Primary School ( ), 2- High School ( ), 3- Associate Degree ( ), 4- Bachelor Degree ( ), 5- Postgraduate Degree ( )

Marital Status

1- Single ( ), 2- Married ( )

Are you aware of X brand auto emission scandal?

1- Yes ( ), 2- No ( )

Perceived Brand Crisis (PBC)

1. This crisis severe damages to the brand.
2. This crisis damages to its brand reputation.
3. Degree of the crisis perception is high.
4. This crisis financially damages to the brand.
5. This crisis is an unexpected event that damages to the brand.
6. This crisis severely damages to environment.

Green Brand Image (GBI)

1. This brand is regarded as the best benchmark of environmental commitments.
2. This brand is professional about environmental reputation.
3. This brand is well-established about environmental concern.
4. This brand is trustworthy about environmental promises.

Green Trust (GT)

1. I feel that this brand's environmental commitments are generally reliable.
2. I feel that this brand's environmental performance is generally dependable.
3. I feel that this brand's environmental argument is generally trustworthy.
4. This brand keeps promises and commitments for environmental protection.

Green Brand Equity (GBE)

1. It makes sense to buy this brand automobile instead of other brands because of its environmental commitments, even if they are the same.
2. Even if another brand has the same environmental futures as this brand, I would prefer to buy this brand.
3. If there is another brand's environmental performance as good as this brand's, I prefer to buy this brand.
4. If the environmental concern of other brands is not different from that of this brand in any way, it seems smarter to purchase this brand.

Green Perceived Value (GPV)

1. This brand's environmental functions provide very good value for me.
2. This brand's environmental performance meets my expectations.
3. I purchase this brand because it is environmentally friendly.
4. I purchase this brand because it has more environmental benefit than other products.

Green Purchase Intention (GPI)

1. I am willing to buy an automobile from these automobile groups in the future because of its environmental performance.
2. I plan to purchase this brand’s automobile because of its environmental concern.
3. I will make effort to buy this brand’s automobile because of it is environmentally friendly.

Willingness to Pay Premium (WPM)

1. I am willing to spend extra in order to buy this environmental friendly automobile brand.
2. It is acceptable to pay premium to buy this brand’s automobile because of its environmental performance.
3. I am willing to pay more to buy this green brand because of its environmental functions.