

**THE ANTECEDENT AND IMPACT OF GREEN BRAND EQUITY ON  
HONDA MOTORCYCLE WITH PROGRAMMABLE FUEL  
INJECTION TECHNOLOGY IN SURABAYA**

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*Abstract*

This study integrates the research model developed by Ng *et al.*, (2014), Chen (2010), and Bekk *et al.*, (2016) and aims to analyze the antecedent and impact of green brand equity on Honda motorcycle with Programmable Fuel Injection (PGM-FI) technology in Surabaya. A theoretical model with hypothesized relationships is developed consisting of nine latent constructs: perceived quality of a brand, brand credibility, green brand image, green brand perceived value, green satisfaction, green trust, green brand equity, brand attitude, and positive word of mouth communication. The method used to collect the data in this study is distributing questionnaire to 260 respondents who meets the sample characteristics that have been determined. Later, the method used to test the validity and reliability of the data is SPSS 18.0 software and the method used to test the hypotheses is Structural Equation Modeling using Lisrel 8.80 software. The results show that brand credibility, green brand perceived value, and green satisfaction have positive influence on green brand equity, thus having role as the antecedents. On the other hand, green brand image and green trust have no influence on green brand equity. Furthermore, the results show that green brand equity has positive influence on brand attitude and positive word of mouth communication, where the positive influence of green brand equity on positive word of mouth communication can be also through mediation of brand attitude. Thus, brand attitude and positive word of mouth communication are impacts of green brand equity.

**Keywords:** Antecedent, Impact, Green brand equity, Honda motorcycle with PGM-FI technology

*Abstrak*

Penelitian ini mengintegrasikan model penelitian yang dikembangkan oleh Ng *et al.*, (2014), Chen (2010), dan Bekk *et al.*, (2016) dan bertujuan untuk menganalisis antedecedan dan dampak ekuitas merek hijau pada sepeda motor Honda dengan Programmable Fuel Injection (PGM-FI) di Surabaya. Model teoritis dengan hubungan hipotesis dikembangkan terdiri dari sembilan konstruksi laten: persepsi kualitas merek, kredibilitas merek, citra merek hijau, nilai persepsi merek hijau, kepuasan hijau, kepercayaan hijau, ekuitas merek hijau, sikap merek, dan ucapan positif dari mulut ke mulut. komunikasi. Metode yang digunakan untuk mengumpulkan data dalam penelitian ini adalah penyebaran kuesioner kepada 260 responden yang memenuhi karakteristik sampel yang telah ditentukan. Kemudian, metode yang digunakan untuk menguji validitas dan reliabilitas data adalah perangkat lunak SPSS 18.0 dan metode yang digunakan untuk menguji hipotesis adalah Structural Equation Modeling menggunakan perangkat lunak Lisrel 8.80. Hasil penelitian menunjukkan bahwa kredibilitas merek, nilai persepsi merek hijau, dan kepuasan hijau berpengaruh positif terhadap ekuitas merek hijau, sehingga memiliki peran sebagai antedecedan. Di sisi lain, citra merek hijau dan kepercayaan hijau tidak berpengaruh terhadap ekuitas merek hijau. Selanjutnya, hasil penelitian menunjukkan bahwa ekuitas merek hijau berpengaruh positif terhadap sikap merek dan komunikasi kata positif dari mulut ke mulut, dimana pengaruh positif ekuitas merek hijau terhadap komunikasi kata positif dapat juga melalui mediasi sikap merek. Dengan demikian, brand attitude dan positive word of mouth communication merupakan dampak ekuitas merek hijau.

Kata kunci: Antecedent, Impact, Green brand equity, motor Honda dengan teknologi PGM-FI

JEL Classification: M37

## 1. Research Background

Air pollution in the city is one of the problems that cause loss for community. In some hospital in Indonesia (2010) shows 1.2 million people of Indonesia have to go for treatment because of respiratory infection, asthma, and various kind of respiratory disease.

(<http://www.suarapembaruan.com/home/pencemaran-udara-perkotaan-jadi-masalah-serius/28328>) downloaded in 13 April 2016). Beside that, the costs that have to be borne by Indonesian people because of the decreasing of child's IQ estimated at Rp 174 billion in 1990 and estimated will increase to Rp 254,4 billion in 2005 (<http://www.menlh.go.id/kita-rugi-miliaran-akibat-pencemaran-udara> / downloaded in 13 April 2016). Therefore, involvement of people is needed to support the government and the ministry of environment in the attempt of minimizing the negative impact of air pollution.

Based on the result of emissions inventory by the Ministry of Environment (KLH) and Germany GIZ Clean Air for Smaller Cities in the Asean Region (GIZ CASC) in 2013, noted that transportation sector is the main source of urban air pollution

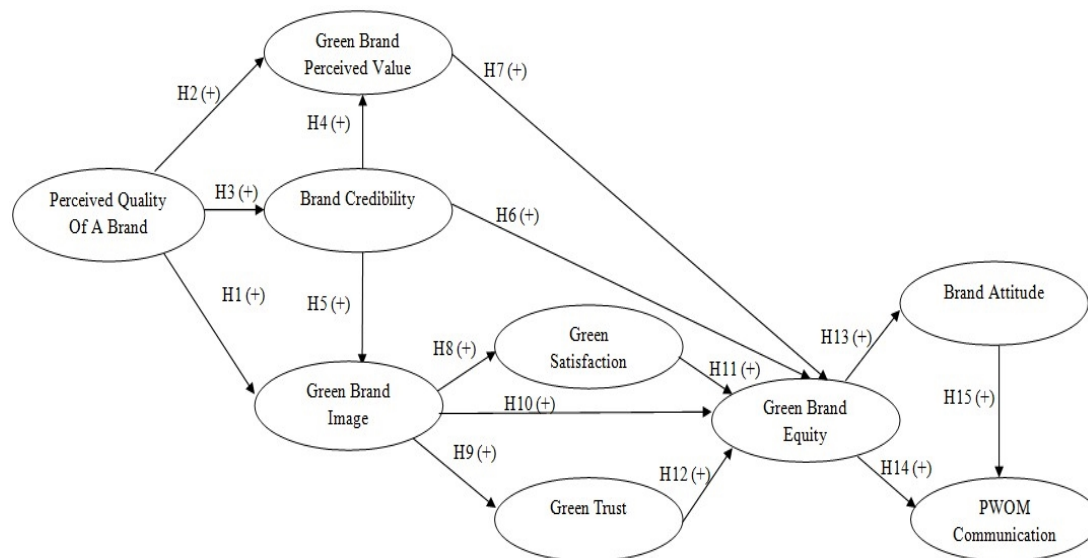
(<http://www.menlh.go.id/pengendalian-pencemaran-udara-perkotaan> / diunduh 13 April 2016). Motor vehicle used as transportation will produce exhaust gas emissions that pollute the air. In the other side, data from Central Bureau of Statistic (2016) shows that motorcycle is the kind of motor vehicle (transportation) that mostly used by Indonesian people during 1987-2013 (<http://www.bps.go.id/linkTabelStatis/view/id/1413> / downloaded in 13 April 2016). As the most widely used motor vehicle, it can be concluded that motorcycle is the main source of urban air pollution. Therefore, motorcycle is made as the object of research.

More specific, the object of this research is Honda motorcycle with Programmable Fuel Injection (PGM-FI) technology. The reason behind the selection of Honda motorcycle as the object of research is the conformity with the research model that is done. Fact shows that PT. Astra Honda Motor (PT. AHM) is the market leader motorcycle market in Indonesia in 2015 and has achieved many awards regarding quality perception and trust towards the motorcycle brand. Another fact shows that since April 2014, PT. AHM has completed all variants of Honda motorcycle with PGM-FI technology, which is technology for increasing fuel consumption efficiency and decreasing exhaust gas emissions (<http://www.astra-honda.com/semua-motor-honda-sudah-injeksi> / diunduh 12 Januari 2017). Furthermore, PT. AHM awarded with Indonesia WOW Brand Award 2015 by Markplus INC by Indonesian people (<http://www.astra-honda.com/berita/sepeda-motor-honda-paling-direkomendasikan-masyarakat/#.Vw36nNSLQsZ> / downloaded in 13 April 2016).

By using the object that has been determined, this research integrates Ng *et al.*, (2014) and Chen (2010) models in forming green brand equity antecedent thorough conventional branding (perceived quality of a brand and brand credibility) antecedent and green branding (green brand image, green brand perceived value, green satisfaction, and green trust). then it is integrated with Bekk *et al.*, (2016) model in order to form green brand equity yaitu brand attitude and positive word of mouth communication impact.

There are two research gaps that make this research interesting to do. Firstly, the result of early sigi questionnaire distribution indicates differences with the result of Ng *et al.*, (2014) research about the influence of perceived quality of a brand on green brand perceived value and brand credibility influence on green brand equity. Second, there is difference in result of the research of Atmoko and Setyawan (2013) in Indonesia with the research of Chen (2010) result in Taiwan about the influence of green brand image and green satisfaction on green brand equity.

## 1.2 Literature Review



**Figure 1. Research Methods**

Information: Arrow are H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13, 14, H15

The model of this research developed by integrates Ng *et al.*, (2014), Chen (2010), and Bekk *et al.*, (2016) models which consist of nine latent constructions and fifteen hypotheses as follows:

The following fifteen hypotheses with forming theories of each hypothesis:

H1: Allegedly perceived quality of brand has positive effect on green brand image like Honda motorcycle

Aaker and Jacobson (1994, 2001) in Ng *et al.*, (2014) stated that certain brand quality signifies the capability of a company to send the total advantage and performance related to the targeted goals. Because of that, it is very likely that quality perception that has been formed in the consumer mind will has positive effect to increase the brand image that is more environmentally friendly.

H2: Allegedly perceived quality of a brand has positive effect on green brand perceived value of Honda motorcycle

Ottman *et al.*, (2006) shows company failure that does not integrate the conventional value proportion in product offering whereas the consumer declines the environmentally friendly product with bad quality. Perceived quality of a brand role is as the basic to influence consumer's appraisal in terms of the ability to fulfill environmentally friendly attribute.

H3: Allegedly perceived quality of a brand has positive effect on brand credibility like Honda motor cycle

Allegedly perceived quality of a brand positively affects the brand credibility of Honda motorcycles. Sternhal *et al.*, (1987) in Ng *et al.*, (2014) stated that with consistent or better quality, the new product line is able to maintain and reaffirm the trust among consumers. So briefly, product quality is affecting the brand credibility perception.

H4: Allegedly brand credibility has positive effect on green brand perceived value Honda motorcycle

Aaker (1991) in Ng *et al.*, (2014) stated that brand credibility will increase brand perceived value and selection when the cost assessing the relevant information high. When the cost

assessing, the information is diminished so the perceived risk on brand will reduce so that perceived value will increase.

H5: Allegedly brand credibility has positive effect on green brand image of Honda motorcycle

Mendleson and Poonsky (1995) explained that brand credibility is needed to increase green marketing effectiveness from three main problems that generally become the obstacle which are low credibility, green cynism, and uncertainty. Company can improve credibility by building environmentally friendly image (Coddington, 1993 and McArthur, 1994 in Mendleson and Poonsky, 1995). As the small parts from perceived value, brand credibility is very possible to improve green brand perceived value.

H6: Allegedly brand credibility has positive value on green brand equity of Honda motorcycle

The research result of Erdem and Swait, (1998) showed that brand credibility is the most important element in forming brand equity, whereas consumer-based brand equity will be formed through the information cost reduction value and risk perception which is brand credibility. As small part from the total brand equity

H7: Allegedly green brand perceived value has positive value on green brand equity of Honda motorcycle

The research result of Hartmann and Apaolaza-Ibanez (2012) shows that consumer believe in extra benefit existence during the consumption of environmentally friendly product compared to conventional product. Therefore, in order to strengthen company consumer-based brand equity, company needs to develop consumer value perception towards certain brand. Allegedly green brand perceived value positively affects green brand equity Honda motorcycles

H8: Allegedly green brand image has positive effect on green satisfaction of Honda motorcycle

Green brand image can increase consumer satisfaction in the demand of environment, continuence hope, and green needs and avoiding punishment because of environmental regulation violation. Research result of Chang and Tu (2005) in Chen (2010) shows that brand image is antecedent of consumer satisfaction. Therefore, it is really make sense if green brand image is ht eantecedent of green satisfaction.

H9: Allegedly green brand image has positive effect on green trust of Honda motorcycle

The rhe research result of Flavian *et al.*, (2005) shows that image has positive effect on trust by reducing the risk perception and increasing purchasing probability during transaction. Because brand image proved as antecedent of consumer trust, it is really make sense that green brand image becomes green trust antecedent.

H10: Allegedly green brand image has positive value on green brand equity on Honda motorcycle.

Here is a lot of research result shows the role of brand image in building such as research result of Aaker (1991,1992) in Chen (2010), Faircloth *et al.*, (2001) in Chen (2010), Keller (1993), and Mertenson (2007). The further research result by Chen (2010) shows the positive effect of green brand image on green brand equity.

H11: Allegedly green satisfaction has positive effect on green brand equity of Honda Motorcycle

Pappu and Quester (2006) stated that satisfaction towards certain brand will cause strong and good association towards brand in consumer's mind, whereas brand association is brand equity. The research result of Kim *et al.*, (2008) shows that consumer satisfaction has positive effect on brand equity through brand awareness mediation. Because of that, it is very make sense that green satisfaction has positive effect on green brand equity.

H12: Allegedly green trust has positive effect on green brand equity of Honda motorcycle

Srivastava *et al.*, (1998) stated that consumer trust will increase description of social relationships between consumer and supplier, one of them is by increasing brand equity which is relational assest. Therefore, it is really make sense that green trust has positive effect on green brand equity.

H13: Allegedly green brand equity has positive effect on brand attitude of Honda motorcycle

Research result of Yoo and Donthu (2001) shows positive correlation between brand attitude and brand equity. Bekk *et al.*, (2016) argument when consumer perceives that the brand has high green equity, so the consumer will have a high attitude on the brand.

H14: Allegedly green brand equity has positive effect is positive word of mouth communication of Honda motorcycle

One of the concrete form intentions of consumer behavior on positive word of mouth communication (Peine *et al.*, 2009 in Bekk *et al.*, 2016). Bekk *et al.*, (201) predicted green brand equity has positive effect on PWOM communication

H15: Allegedly grand attitude mediates positive effect of green brand equity on positive word of mouth communication of Honda motorcycle

Theory of planned behavior shows that attitude and intention affecting behaviour (Ajzen, 1991 in Bekk *et al.*, 2016). Bekk *et al.*, (2016) arguments that green brand equity will form attitude (brand attitude) which later forming behavior (PWOM communication).

## 2. Research Method

This research can be clarified by the types, aims, data types, and strategy. Based on the types, this research is basic research, which is research to produce set of knowledges in general (Sekaran and Bougie, 2013:5). Based on the aims, this research is causal research, which is the research that tests whether one variable can cause another variable change (Sekaran and Bougie, 2013:5). Based on types of data, this research is quantitative research because it uses numerical data (Sekaran and Bougie, 2013:3). Based on the strategy, this research is a survey, which is a research that uses system to collect information from and or people to describe, compare, or explain knowledge, attitude, and behavior (Fink, 2003 in Sekaran and Bougie, 2013: 102).

The data source of this research is primary data, which is information that obtained from the first hand by the researcher in variable that will be researched for specific purpose of the research (Sekaran and Bougie, 2013:113). The level of measurement that used in this research in interval level which is level that is not just categorizing and giving ratings, but also gives the researcher the ability to measure the gap between two numbers in scale (Sekaran and Bougie, 2013:214). Scale that used is rating scale, which is the scale that has some response categories and used for obtaining response about object, happening, and or person that is studied (Sekaran and Bougie, 2013:211). The form of rating scale that used in Likert scale is the scale that is designed to test how strong the subject agrees or disagree with the statement (Sekaran and Bougie, 2013:220). All the alternative answers arranged based on 5 numbers Likert scale (1 = very disagree; 5 = very agree)

Very Disagree      1   2   3   4   5      Very Agree

Data collection will be done by distributing questionnaire to respondense that fulfill the sample characteristics on the street and motorcycle parking area in Surabaya, which are:

1. Customer ever decided to buy Honda motorcycle
2. Customer has used Honda motorcycle with PGM-FI technology at least one year
3. Customer knows about Honda motorcycle with PGM-FI technology as environmentally friendly motorcycle.
4. Customer lives in Surabaya.
5. Customer educational background minimal of highschool or equal

Because of population that has not been identified clearly, sample collecting design that used is non-probability sampling which is sample collection whereas the element within population does not have determined probability in order to be chosen as sample subject (Sekaran and Bougie,

2013:252). Non-probability sampling design category is sample collecting that whereas the element in population does not have determined probability to be chosen as sample subject (Sekaran and Bougie, 2013:252). Non-probability sampling design category that used in this research is purposive sampling which is sample collection limited in limited kind of people that able to provide information that is needed, whether because they are the only one that have it or they are suitable with the criteria that determined by the researcher (Sekaran and Bougie, 2013:252). Kind of purposive sampling that used is judgement sampling which is subject selection that is profitable or in the best position in terms of place to provide information that is needed (Sekaran and Bougie, 2013:252).

The sample size of this research is 20 samples, which is more than minimum sample size of 5 x 40 indicator = 200 samples that recommended by Ferdinand, (2002:48). Lastly, data processing divided into three big groups which are validity and reliability test of 30 initial respondents (using SPSS 18.0 software), measurement model and structural model measurement also compatibility test (using Lisrel 8.80 software), and unidimensionality and reliability test (using Microsoft Excel 2007 software).

### 3. Result and Discussion

Table 1-9 shows the validity test result from the whole latent construction based on the data of 30 research initial respondents using SPSS 18.0 software. Validity test is done to find out the provision of each indicator within the questionnaire to measure a variable. Indicator stated as valid if the pearson correlation between indicators with the total score of significant value less than 0,05 ( $\alpha = 5\%$ ). The result of validity test in Table 1-9 shows the whole latent construction indicator of this research have valid correlation significant value and can be used for next analysis.

**Table 1. Validity Test Result of Perceived Quality of a Brand Indicator**

No	Indicator	Pearson Correlation	Sig.	Inf.
1.	Honda motorcycle brand has high quality	0.915**	0.000	Valid
2.	Most likely Honda motorcycle has high quality	0.890**	0.000	Valid
3.	Very likely Honda motorcycle has the characteristics	0.842**	0.000	Valid
4.	Possibility of Honda motorcycle can be relied on is	0.879**	0.000	Valid
5.	Honda motorcycle surely has good quality	0.792**	0.000	Valid

**Table 2. Validity Test Result of Brand Celebrity Indicator**

No	Indicator	Pearson Correlation	Sig.	Inf.
1.	Honda motorcycle gives what it is promised	0.924**	0.000	Valid
2.	Service claim from Honda motorcycle is make sense	0.908**	0.000	Valid
3.	Your experiences with Honda motorcycle often lead you to hope that Honda motorcycle can meet their promise, not less and not more	0.838**	0.000	Valid
4.	Honda motorcycle committes to meet their claims, not less and not more	0.860**	0.000	Valid
5.	Honda motorcycle has the name that you already trust	0.866**	0.000	Valid

6.	Honda motorcycle has the ability to meet what they have promised	0.876**	0.000	Valid
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**Table 3. Validity Test Result Green Brand Image Indicator**

No	Indicator	<i>Pearson Correlation</i>	Sig.	Inf.
1.	Honda motorcycle considered as the benchmark for environmental commitment	0.928**	0.000	Valid
2.	Honda motorcycle is professional in terms of environmental reputation	0.947**	0.000	Valid
3.	Honda motorcycle has related to environmental issue for long time	0.826**	0.000	Valid
4.	Honda motorcycle can be relied in their environmental promises	0.884**	0.000	Valid

**Table 4. Validity Test Result Green Brand Perceived Value Indicator**

No	Indicator	<i>Pearson Correlation</i>	Sig.	inf.
1.	Environtmental function of Honda motorcycle gives you a very high value	0.956**	0.000	Valid
2.	Environmental performance of Honda motorcycle is just like what you are expected	0.920**	0.000	Valid
3.	You buy a Honda motorcycle because it is environmentally friendly	0.930**	0.000	Valid
4.	You buy a Honda motorcycle because it gives you more environmental benefit compare to other products	0.823**	0.000	Valid

**Table 5. Validity Test Result Green Satisfaction Indicator**

No	Indicator	<i>Pearson Correlation</i>	Sig.	Inf.
1.	You feel pleased for the decision to buy Honda motorcycle because of the commitment of environment	0.870**	0.000	Valid
2.	You are sure that buying a Honda motorcycle is the right thing because of the environmental performance	0.886**	0.000	Valid
3.	Generally, you are pleased to buy Honda motorcycle because it is environmentally friendly	0.916**	0.000	Valid
4.	Generally, you feel satisfied with Honda motorcycle because the awareness of environment	0.914**	0.000	Valid

**Table 6. Validity Test Result Green Trust Indicator**

No	Indicator	Pearson Correlation	Sig.	Inf.
1.	You feel that Honda motorcycle commitment can be trusted generally	0.922**	0.000	Valid
2.	You feel that Honda motorcycle performance towards environment can be trusted generally	0.904**	0.000	Valid
3.	You feel that Honda motorcycle argument on environment can be trusted generally	0.912**	0.000	Valid
4.	Honda motorcycle awareness on environment meet your hope	0.892**	0.000	Valid
5.	Honda motorcycle meet their promise and commitment on environmental protection	0.941**	0.000	Valid

**Table 7. Validity Test Result Green Brand Equity Indicator**

No	Indicator	Pearson Correlation	Sig.	Inf.
1.	It is make sense for you to buy Honda motorcycle compare to another brand because of the environmental commitment, even	0.953**	0.000	Valid
2.	Even if the other brand has the same environmental feature with Honda motorcycle, you will be more like to buy Honda motorcycle	0.953**	0.000	Valid
3.	If there is the same environmental performance with Honda motorcycle, you will like Honda motorcycle more	0.975**	0.000	Valid
4.	If the awareness of environment of other brand is not much different from Honda motorcycle in terms of everything, you will think it will be cleverer to buy Honda motorcycle	0.921**	0.000	Valid
5.	Honda motorcycle good	0.890**	0.000	Valid

**Table 8. Validity Test Result Breand Attitude Indicator**

No	Indicator	Pearson Correlation	Sig.	Inf.
1.	Honda motorcycle positive	0.939**	0.000	Valid
2.	Honda motorcycle fun	0.942**	0.000	Valid
3.	Honda motorcycle good	0.890**	0.000	Valid
4.	Honda motorcycle sympathetic	0.919**	0.000	Valid



**Table 9. Validity Test Result Positive Word of Mouth Communication Indicator**

No	Indicator	Pearson Correlation	Sig.	inf.
1.	You are often mentioned Honda Motorcycle to another people	0.870**	0.000	Valid
2.	You are rarely do more than just mention the name of Honda motorcycle to another people	0.809**	0.000	Valid
3.	You just mention good things about Honda motorcycle	0.921**	0.000	Valid
4.	You tell other people that you are using Honda motorcycle proudly	0.905**	0.000	Valid

Table 10 shows the research latent construction reliability test result with 30 initial respondents' data using the SPSS 18.0 software. Reliability test used for finding out the consistency of measuring tools that is used, this thing means that measurement tool that is used can be relied on and still having the consistent result. If the cronbach alpha value is more than 0,60, that means each indicator in the questionnaire is reliable. The test result in table 10 shows that latent construction indicator is reliable.

**Table 10. Laten Constructs Reability Test Result**

No Latent Construction	Cronbach Alphavalue	Information
1 <i>Perceived Quality of a Brand</i>	0.914	Reliable
2 <i>Brand Credibility</i>	0.940	Reliable
3 <i>Green Brand Image</i>	0.914	Reliable
4 <i>Green Brand Perceived Value</i>	0.929	Reliable
5 <i>Green Satisfaction</i>	0.918	Reliable
6 <i>Green Trust</i>	0.949	Reliable
7 <i>Green Brand Equity</i>	0.964	Reliable
8 <i>Brand Attitude</i>	0.942	Reliable
9 <i>Positive Word of Mouth Communication</i>	0.899	Reliable

Figure 2 shows the measurement model processing result using Lisrel 8.80 software. If there is indicator that has *Standardized Loading* < 0,5 so the indicator will be erased form measurement model. Measurement model processing result in picture 1 shows that the whole indicator is worth to use in research.

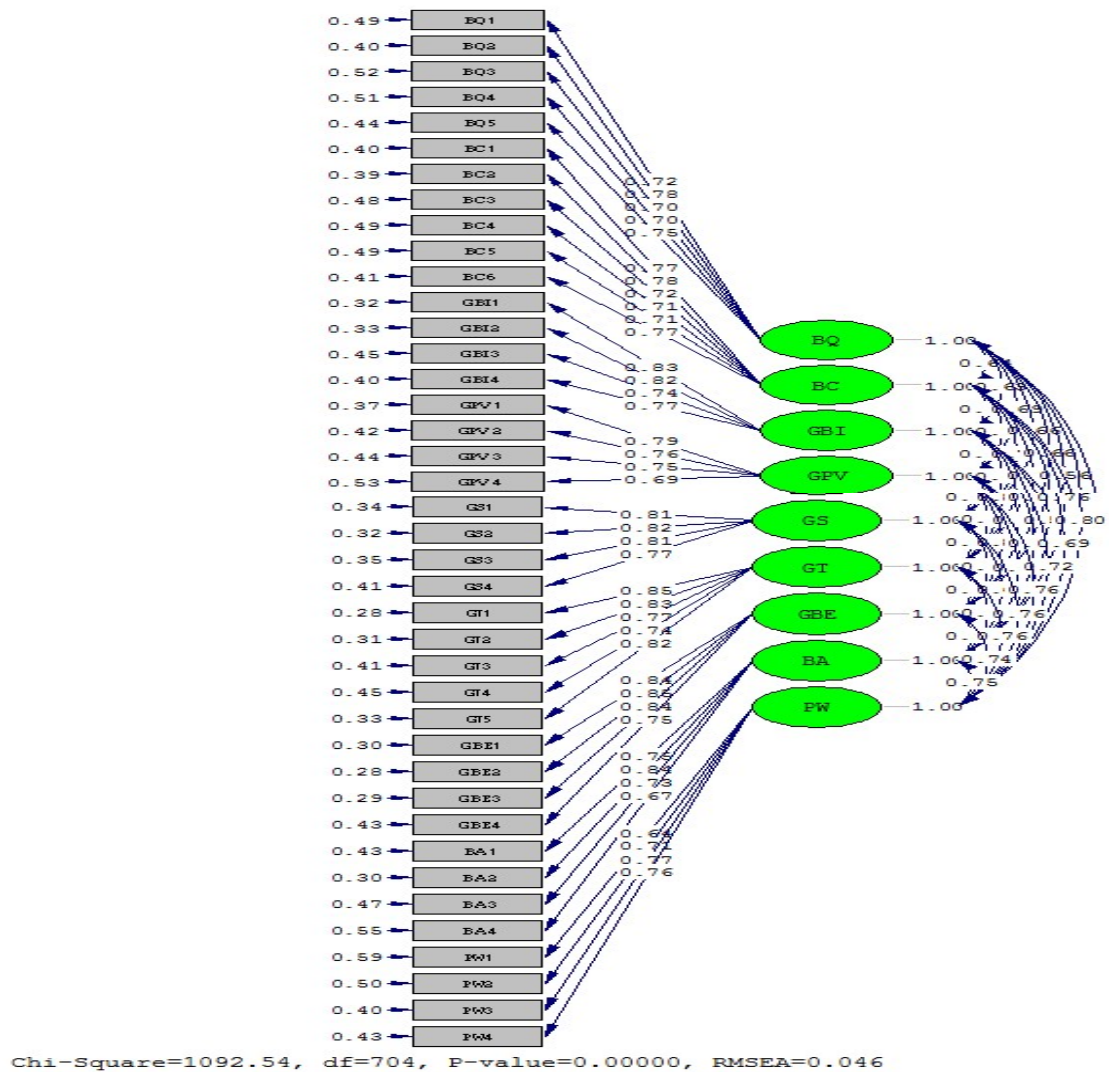


Figure 2. Measurement Model

Table 11 shows the measurement model compatibility test result with compatibility criteria, whereas most part of the measurement tool shows *good fit* value.

Table 11. Measurement Model Compatibility Test Result

No	Compatibility Test	Compatibility Criteria	Result	Information
1	Chi-Square	Expected to be small, $p \geq 0,05$	1,092.54	Bad fit
2	Normed Chi Square	$CMIN / DF \leq 2$	1.55	Good fit
3	GFI	$GFI \geq 0,90$	0.83	Marginal fit
4	RMSEA	$RMSEA < 0,07$ with $CFI \geq 0,90$	0.046	Good fit
5	RMR	$RMR \leq 1$	0.029	Good fit
6	SRMR	$SRMR \leq 0,08$ with $CFI > 0,92$	0.038	Good fit
7	NFI	$NFI \geq 0,95$	0.97	Good fit
8	TLI	$TLI \geq 0,90$	0.99	Good fit
9	CFI	$CFI \geq 0,90$	0.99	Good fit
10	RNI	$RNI \geq 0,90$	0.97	Good fit
11	AGFI	$AGFI \geq 0,90$	0.80	Marginal fit
12	PNFI	$PNFI 0,60 - 0,90$	0.88	Good fit

Table 12 and Table 1 show the measurement model unidimensional and reliability test result by counting construct reliability and average variance extracted using Microsoft Excel 2007 with standardized loading value that taken from standardized solution Indicator Lisrel 8.80 measurement model. According to Hair *et al.*, (2010, p 710), construct reliability value that accepted is 0.0 and average variance extracted that can be accepted is  $\geq 0,50$ . Construct reliability and variance extracted value of the whole latent construction in Table 12 and Table 13 has met the criteria.

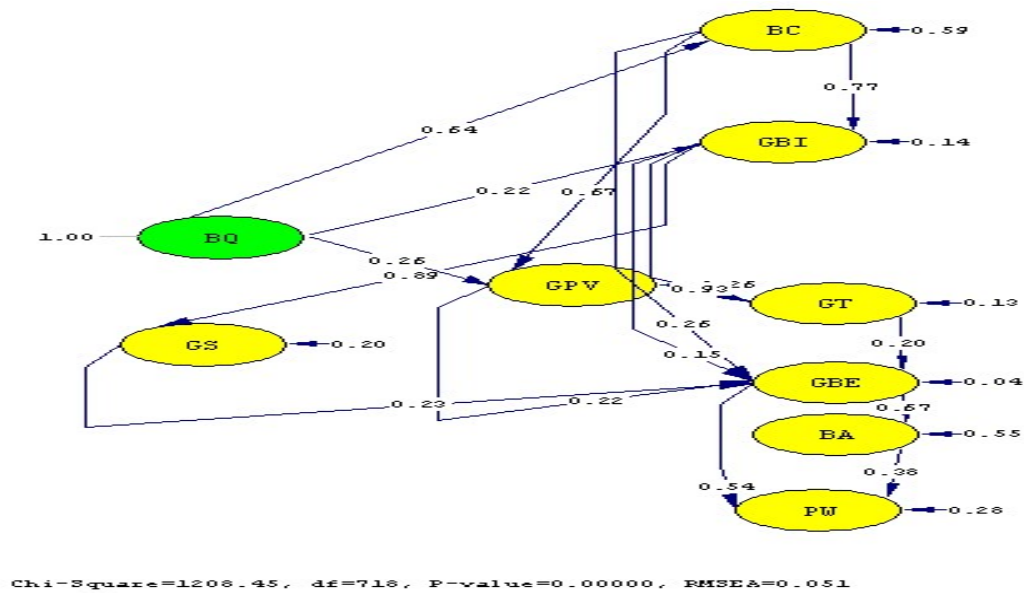
**Table 12. Construct Reliability**

<b>Latent Construction</b>	<b>(std.loading)</b>	<b>(std.loading)<sup>2</sup></b>	<b>error</b>	<b>Construct Reliability</b>
<i>Perceived quality of a brand</i>	3.65	13.32	2.33	0.85
<i>Brand credibility</i>	4.46	19.89	2.68	0.88
<i>Green brand image</i>	3.16	9.99	1.50	0.87
<i>Green brand perceived value</i>	2.99	8.94	1.76	0.84
<i>Green satisfaction</i>	3.21	10.30	1.42	0.88
<i>Green trust</i>	4.01	16.08	1.78	0.90
<i>Green brand equity</i>	3.28	10.76	1.30	0.89
<i>Brand attitude</i>	2.99	8.94	1.75	0.84
<i>Positive word of mouth Communication</i>	2.88	8.29	1.92	0.81

**Table 13. Average Variance Extracted**

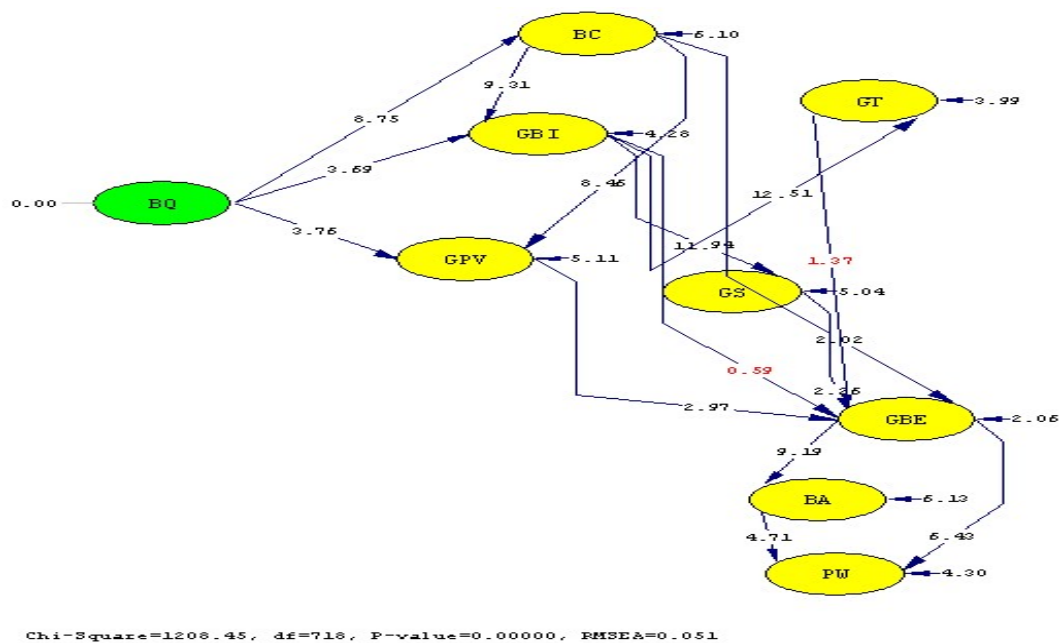
<b>Latent Construction</b>	<b>(std.loading<sup>2</sup>)</b>	<b>Error</b>	<b>Average Variance Extracted</b>
<i>Perceived quality of a Brand</i>	2.67	2.33	0.53
<i>Brand credibility</i>	3.32	2.68	0.55
<i>Green brand image</i>	2.50	1.50	0.63
<i>Green brand perceived value</i>	2.24	1.76	0.56
<i>Green satisfaction</i>	2.58	1.42	0.64
<i>Green trust</i>	3.22	1.78	0.64
<i>Green brand equity</i>	2.70	1.30	0.67
<i>Brand attitude</i>	2.25	1.75	0.56
<i>Positive word of mouth communication</i>	2.08	1.92	0.52

Figure 3 shows the structural model processing result after modified using Lisres 8.80 software with estimate value which shows how big the effect latent construction. Modification is done based on the advice of Lisrel 8.80 software model modification feature with correlate the indicator that have close connection which are BC1 and BC2, GBI1 and GBI2, GPV1 and GPV3, GPV3 and GPV4, GT1 and GT2, GT1 and GT4, also GBE2 and GBE3.



**Figure 3. Structural Model Estimate Value after Modification**

Figure 4 shows the result of structural model processing after modification using Lisrel 8.80 software with tvalue, which is the one that show research hypothesis is supported or not. If t-significant value  $\geq 1,96$  means that hypothesis is supported.



**Figure 4. Structural Model T-Value after Modification**

Table 14 shows structural model reliability test result after modification with compatibility criteria, whereas most part of the measurement tool shows good fit value.

**Table 14. Structural Model**

No	Compatibility Test	Compatibility Criteria	Result	Information
1	<i>Chi-Square</i>	Expected to be small, $p \geq 0,05$	1,208.45	<i>Bad fit</i>
2	<i>Normed Chi Square</i>	$CMIN/DF \leq 2$	1.68	<i>Good fit</i>
3	GFI	$GFI \geq 0,90$	0.81	<i>Marginal fit</i>
4	RMSEA	$RMSEA < 0,07$ with $CFI \geq 0,90$	0.051	<i>Good fit</i>
5	RMR	$RMR \leq 1$	0.042	<i>Good fit</i>
6	SRMR	$SRMR \leq 0,08$ with $CFI > 0,92$	0.056	<i>Good fit</i>
7	NFI	$NFI \geq 0,95$	0.97	<i>Good fit</i>
8	TLI	$TLI \geq 0,90$	0.99	<i>Good fit</i>
9	CFI	$CFI \geq 0,90$	0.99	<i>Good fit</i>
10	RNI	$RNI \geq 0,90$	0.97	<i>Good fit</i>
11	AGFI	$AGFI \geq 0,90$	0.78	<i>Bad fit</i>
12	PNFI	PNFI 0,60 - 0,90	0.89	<i>Good fit</i>

As bonus, this research tested the mediation effect by embrace the Classic Baron and Kenny (198) model as follows:

1. Ng *et al.*, (2014): Green brand perceived value mediation in brand credibility effect on green brand equity (BCGPVGBE).
2. Ng *et al.*, (2014): Brand credibility mediation in perceived quality of a brand effect on green brand image (BQBCGBI).
3. Ng *et al.*, (2014): brand credibility mediation in perceived quality of a brand effect on green brand perceived value (BQBCGPV).
4. Chen (2010): green satisfaction mediation in green brand image effect on green brand equity (GBIGSGBE).
5. Bekk *et al.*, (2016): brand attitude mediation in green brand equity effect on positive word of mouth communication (GBEBAPW).

These five-mediation effect show that mediation is partial, whereas if mediation variable controlled, the independent variable effect on dependent variable is still significant.

### 3.1 Result and Discussion

From fifteen hypotheses, thirteen of them are supported and two are not. The supported hypotheses are according to literature review that has been explained. Based on t-value in picture 3, hypotheses that are not supported in this research is hypothesis 10 and hypothesis 12.

H10: *Green brand image* has no effect on *green brand equity*

It is because customer of Honda motorcycle that become the respondent of this research is just a little of Indonesian people with lack of careness of their environment characteristic. Survey result of The Ministry of Environment (2013) with the title of Environmental Careness People Behaviour in 12 provinces from every island in Indonesia shows Environmental Careness Behaviour Index (IPPL) of Indonesian people as much as 0,5 in the range of 0-1. More spesificly, two indicators (subindex) forming IPPL which is fuel utilization behavior get 0,28 value and carbon emission behavior get 0,59 values ([http://www.menlh.go.id/DATA/bk\\_laporan\\_survei.pdf](http://www.menlh.go.id/DATA/bk_laporan_survei.pdf) diunduh 1 Februari 2017). Ion the range of 0-1 value, these three values are included to low, so that it is shows the lack of careness on environment. Because of the lack of careness on environment, good impression on Honda brand in the memory of customer about the additional value of Honda brand in terms environmental continuance and friendly do not increase customer good perception about

additional value of Honda brand in terms of green commitment and environmental careness compare to other environmental friendly motorcycle brand

H12: *Green trust* has no effect on *green brand equity*

It is because customer of Honda motorcycle that become the respondent of this research is just a little of Indonesian people with lack of careness of their environment characteristic. Survey result of The Ministry of Environment (2013) with the title of Environmental Careness People Behaviour in 12 provinces from every island in Indonesia shows Environmental Careness Behaviour Index (IPPL) of Indonesian people as much as 0,5 in the range of 0-1. More spesificly, two indicators (subindex) forming IPPL which is fuel utilization behavior get 0,28 value and carbon emission behavior get 0,59 values ([http://www.menlh.go.id/DATA/bk\\_laporan\\_survei.pdf](http://www.menlh.go.id/DATA/bk_laporan_survei.pdf) diunduh 1 Februari 2017). Ion the range of 0-1 value, these three values are included to low, so that it is shows the lack of careness on environment. Because of the lack of careness on environment, good impression on Honda brand in the memory of customer about the additional value of Honda brand in terms environmental continuance and friendly do not increase customer good perception about additional value of Honda brand in terms of green commitment and environmental careness compare to other environmental friendly motorcycle brand

#### 4. Conclusion

The important finding in this research is the antecedent that is proven increasing green brand equity with di order from biggest effect up to the smallest which are green brand equity with the largest order of influence to the smallest is brand credibility, green satisfaction and green brand perceived value. Green brand equity Then improve brand attitude and positive word of mouth communication.

Theoretical implication of this research is reassessment is need to be done on four different research results about the effects of perceived quality of a brand on green brand perceived value, brand credibility on green brand equity, green brand image on green brand equity, and green trust on green brand equity. On the other side, practical implication of this research is that greenbrand equity is an important aspect formed by the company and needed big focus in brand credibility to increase green brand equity.

This research still has limitation in form of object range and narrow research scope, limited green brand equity antedecent latent construction, and not entering theory that explain the effect of mediation between latent constructions.

Suggestion for the future research with green brand equity topic hoped can resolve the limitations of this research. On the other side, suggestion for marketing practices is practicer better fight to forming green brand equity of environmentally friendly product that is offered. The step to form green brand equity better start by forming perceived quality of a brand and brand credibility in conventional product. After that, it is needed environmentally friendly product creation that perform well to create green satisfaction and press cinference promotional activity related to environmentally friendly technology benefit to create green brand perceived value. Lastly, suggestion for PT. AHM is to explain PGM-FI technology differences compare to injection technology of competitor and does customer motivation survey to buy Honda motorcycle with PGMFI.

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