

CUSTOMERS MOTIVATION TO PURCHASE LOW COST GREEN CAR IN INDONESIA

Kevin Kynan Sanjaya and Mia Tantri Diah Indriani
School of Business and Management
Institut Teknologi Bandung, Indonesia
kevin.kynan@sbm-itb.ac.id

Abstract-Automotive industry in Indonesia is keep increasing year by year. Many of giant cars manufacturer such as Toyota, Honda, Mitsubishi, and even BMW and Mercedes-Benz have built their own factory in Indonesia. This indicates the potential of Indonesia automotive industry to have a bright future and promising. Unfortunately, Indonesia is not able to make and develop their own car yet. With this low cost green car program, it is expected that Indonesia could have their own car which built and develop by Indonesian people and also to generate Indonesia automotive industry more evenly. The purpose of this low cost green car program is to provide affordable cars for middle-low class Indonesian people, so it could make them easier to transport. Moreover, with this low cost green car program, it is expected that could develop Indonesia because this car was designed and developed by Indonesian people and must have Indonesian attribute, and also could generate automotive industry more evenly because almost all of the component for this low cost green car is made in Indonesia. The purpose of this research is to get the information the relation between customers knowledge about low cost green car with their motivation to purchase low cost green car in Indonesia. Financially benefit, care to environment health, self-image, social norm and pressure, and interested with new technology is some of the main motivation to purchase low cost green car. This research is using the data which is collected by using questionnaire to the owner of low cost green car in Bandung and Jakarta. The result of this research indicates that the customers motivation to purchase low cost green car is financially benefit. To analyze the data which is gathered by using questionnaire, this research is using descriptive analysis and crosstabs analysis.

Keywords: Motivation, Knowledge, Low Cost Green Car

Introduction

Nowadays, energy crisis and pollution has become more serious problem. Indonesian government should take action to prevent this problem before it's getting worse and worse. To qualify as a green car, the car's engine must be between 900 – 1200cc for spark ignition engine which is use gasoline and not exceed 1500cc for compression ignition machine or usually called diesel. Both gasoline and diesel types must have a fuel consumption rate of at least 20 kilometers per liter of petrol. With making this Low-Cost Green Car or is used to be called as LCGC or cheap car, Indonesian government hope that it will solve the problem of energy crisis and pollution because LCGC is very fuel efficient and produce less pollution than usual car. LCGC also makes middle-low class people could buy a car and make them commute easier than before.

Indonesian government also want to increase the standard of living of Indonesian people with producing this car. Another consideration of making this LCGC car is to increase the jobs field for Indonesian people and makes Indonesia ready to face the open market in 2015. Most of the LCGC cars component is made in Indonesia and it is expected to increase the jobs field significantly. Nowadays, Indonesia has exported Toyota Agya and Daihatsu Ayla to Filipina and also targeted to

Malaysia, Thailand, Vietnam, and South America in the coming years. Indonesian Industry Minister Mohammad Suleman Hidayat said that in next year, 2015, all of Toyota Agya and Daihatsu Ayla component will be made 100% in Indonesia. This program succeed to provide a jobs for 80 thousands people and make a hundred new automotive component factory in Indonesia.

The challenge is, Indonesian government should encourage Indonesian people that this car is not only for increasing Indonesian automotive industry but also give the solution to the environmental problem. If the low cost green car manufacturer success to give a further highlight for green products not the cheap products, people from middle-high class could interest to buy low cost green car too. Actually, Indonesian people is dream about having a good mass transportation system like in Singapore or Malaysia, but, it will be a long-term target for the government to make a well-integrated and comfort mass transportation system. Low cost green car is expected to be the short-term solution to overcome the transportation problem in Indonesia.

The purpose of this research is to conduct a research to define customers motivation when they purchase low cost green car in Indonesia, and confirm it with their knowledge. The result will be analyzed in order to get the information whether the customers buy a low cost green car for the financial benefit or environment reasons. The result of the analysis should indicate if the customers interest with the green product or care to environment, or just focus on financial benefit.

“What are the customers main motivation to purchase low cost green car in Indonesia?”

Literature Review

Policy of Low Cost Green Car in Indonesia

In the Indonesian economic policy, automotive industry is one of the most important sector to be improved so it needs a policy which is conducive to support the development. In this case, Indonesian ministry of industry has made a policy about cheap cars yet eco-friendly or used to be called low cost green car in “Peraturan Menteri Perindustrian (Permenperin) Nomor 33/M-IND/PER/7/2013” about production development of four wheels vehicle which using low energy and affordable.

What is Green Car

There are some terms and condition for a cars to be classified as a green cars. First, in Indonesia the cars could be classified as a green cars if it consume at least 20 km/L fuel. Even the machine capacity is small, doesn't mean it will be classified as a green cars if it consume below 20 km/L. The advantage of being classified as a green cars is tax free based on Peraturan Pemerintah (PP) Nomor 41 Tahun 2013.

Consumer Motivation

This paper is made to understand what makes consumers consider buying a low cost green car and how policy can encourage them. Nowadays, making a new technology which is using lower energy is a clear and important economic and social objective. Luckily, the development of the new technology make this is very possible to assist in achieving this objective. However, consumer's perceptions of the real advantages of these innovations in transport technologies are critical. Consumer acceptance, including subsequent use and rebound effects, is an important condition for a technological shift and the long-term success of a new sustainable transport system. There are some main factors that influence people for buying a low cost green car which is financially benefit, care to environment, social and norm pressure, self-image, and interested with new technology (Ozaki, 2011). In this research, not all of that aspect could be applied in this research because it was made for grouping customers motivation of hybrid cars and it needs a further research to be applied

for low cost green car in Indonesia. Only financially benefit aspect and care to environment aspect which could be used in this research. But, social and norm pressure, self-image, and interested in new technology still included in this research as a comparison to financially benefit and care to environment aspect.

Financially benefit

Financial benefits is consider as one of the best reason why people want to buy a green car. With buying the green car, consumers expect to lower the bill for buying fuel especially for middle-low class people. Based on ecological economics journal, financial incentives can be used to increase the intrinsic motivation to purchase green car. This paper is focus on how well Indonesian people know about low cost green car and what is the main motivation for them to buy this low cost green car.

Almost all of low cost green car component is made in Indonesia and made by Indonesian people. So, not only give a positive impact to the Indonesian automotive industry but also price of the car must be cheaper. Until this car is made, there are only a few car have a price list below 100 million rupiah. In this case, Indonesian Government give the financial incentive to people who buy low cost green car. As it has explained above, Indonesian Government decide to make a regulation that give 0% tax to people who buy low cost green car. Indonesian GDP per capita is still lower than another develop country. Low cost green car is expected to increase the welfare of middle-low class people in Indonesia which will make them easier to transport.

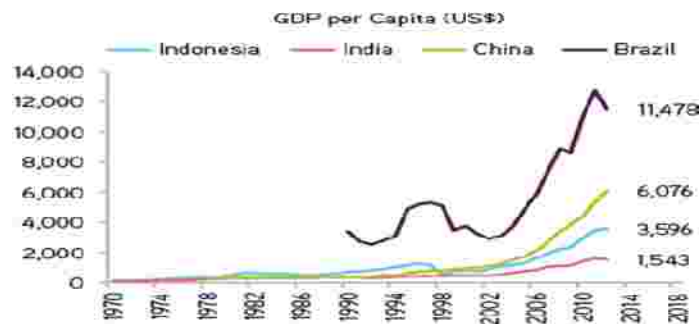


Figure 1. Indonesia GDP

Social Norms or Pressure

Human is a social creatures and can't be divided from social life, people respond to social norms, expressed in such statements as socially desirable behavior, being considerate to others, sharing common values and being socially responsible is an important factor. Consumers are often influenced by the consumption patterns of neighbors, co-workers, opinion leaders, and other peers (Deffuant, 2005).

Interested in New Technology

Based on the analysis in energy policy journal, an interest in technology was the second strongest factor in both analysis. Some of people are interested at trying something new, including new technology. They are curious what is the advantage and benefit of using that kind of new technology. But, it is partly because consumers need to experience a new technology, such as hybrid vehicle, to overcome any doubts or apprehensions about the technology and reduce uncertainty. The relationship between the possibilities produced by technological innovation and actual sustainable outcomes is heavily mediated by consumers attitude towards that innovation.

Environmentally Benefits

One behavior identified that affects consumer willingness to pay more for environmentally friendly products was consideration of environmental issues when making purchase decisions (Laroche, 2001).

Self-Image

For some, cars are not just utilitarian means of transport, but are laden with cultural meaning and image such as identity and status (Dittmar, 1992). With driving low cost green car, they would not get the pride like if they driving hybrid cars, but, people may give a respect to people who care to environment. Self-image congruence captures how the consumer feels the product relates to his view of who he is and who he would like to be (Sirgy, 1982).

Methodology

This research will follow the flow below to finish the project. Basically, there are six steps in conducting this research from identifying the problem(s) to generate conclusion and give recommendation.



Figure 2. Research Design

Data Gathering

For data gathering method, the questionnaire survey was distributed in Bahasa Indonesia and available in two copy which is hard copy and soft copy. Most of the data is gathered by using soft copy, which is spread in social media such as Facebook and Twitter for the selected target. The hard copy questionnaires were spread to friends or relation who has low cost green car. The result of the questionnaire will be used as the primary data, combined with the secondary data that obtained from another research such as journal, textbooks, and internet.

Research Variable

The questionnaire first developed in English then translated to Bahasa Indonesia to make the respondents easier and have a better understanding about the questionnaire. The variables are sourced from journals. Sourced from previous Journal (Ozaki, 2009) that grouping the main motivation into five group, which is financially benefit, care to environment, self-image, social norm and pressure, and interested with new technology. The customers knowledge question is a multiple choice question and the purchase motivation question is using likert scale method from 1 to 5.

Validity and Reliability

Validity test is needed to ensure that the questionnaire result will appropriate with the purpose of this research. This is based on the Azwar's opinion (1986). He said that:

“A measurement scale or instrument can be said has a high validity level, if, that instrument is running the measurement function, or give the appropriate result to the purpose of the research. While test that has a low validity will result in irrelevant data with the purpose of the research.”

The next step after the validation of the test is done, is reliability test, to find out how far a reliable instrument. The testing is done by alpha cronbach test. It needs the test once by using the statistic technic to the respondent's answering score. It is resulted by the using of the instrument. Variable can be said reliable if the counting value = 0.7. This is based on the Sekaran's idea (2008:201) said that a measuring instrument can be called reliable and can be proceeded at the next level if the coefficient value $R = 0.7$ then the measuring instrument is not reliable.

Crosstab Analysis

Cross tabulation analysis is used to analyze categorical (nominal measurement scale). In this research it used to investigate the relationship between consumer motivation about low cost green car with the consumer knowledge. Cross tabulation with chi square analysis is used to test the significances of the relationship between variables.

Data Analysis

This chapter will describe all the analysis conduct in this research. Going forward consecutively, the respondent profile will be the first section, followed by consumer knowledge, and consumer motivation, and the connection between each variables used in this research.

Validity and Reliability Test

Table 1. Validity and Reliability Table

Variable	Question	Validity Coefficient	Critical Point	Description	Reliability Coefficient	Critical Point	Description
Motivation	Fuel Consumption	0,355	0,3	Valid	0,860	0,7	Reliable
	Tax Incentive	0,567	0,3	Valid			
	Climate Change	0,677	0,3	Valid			
	Carbon Footprint	0,541	0,3	Valid			
	Maintain Environment	0,606	0,3	Valid			
	Reduce Pollution	0,547	0,3	Valid			
	Doing the right thing	0,683	0,3	Valid			
	Trendsetter In technology	0,534	0,3	Valid			
	Considerate to Others	0,562	0,3	Valid			
	Socially	0,741	0,3	Valid			

Responsible			
Less dependent to oil producer	0,495	0,3	Valid
Not Affected to oil price	0,613	0,3	Valid
Pioneer in technological sphere	0,616	0,3	Valid
Like try new things	0,386	0,3	Valid
Educate Others	0,696	0,3	Valid
Enjoys Innovation	0,496	0,3	Valid

The data could be said as a valid data if the validity coefficient value of that data is higher than 0,3 and if the reliability coefficient value is higher than 0,7, it can be assumed as a reliable data. The result the validity shows that all of the data is valid because the validity coefficient value of all variable is higher than 0,3. This result will be appropriate with the purpose of this research which is to find out what is customers motivation to purchase low cost green car in Indonesia. For the reliability test, the result shows that this data is reliable with reliability coefficient value is higher than 0,7. It means that this data could be proceeded and be used properly in this research.

The table below shows the cronbach's alpha test with 16 sample and the result is 0,860 which means that this data is reliable.

Table 2. Reliability Statistics Table

Reliability Statistics

Cronbach's Alpha	N of Items
,860	16

Fuel Consumption

Table 3. Crosstabs about Fuel Consumption

		Fuel Consumption Likert Scale				Total
		Disagree	Neutral	Agree	Strongly Agree	
Fuel consumption limit question	Wrong	2 100,0%	3 75,0%	21 28,8%	7 33,3%	33 33,0%
	Correct	0 0%	1 25,0%	52 71,2%	14 66,7%	67 67,0%

Total	2 100,0%	4 100,0%	73 100,0%	21 100,0%	100 100,0%
-------	-------------	-------------	--------------	--------------	---------------

Indonesia government has made the rule that the car must consume 20 km/L minimum to be categorized as low cost green car. The table below shows that from 73 respondents that choose agree, 71,2% of them answer correctly in customers knowledge question about fuel consumption. This result indicates that fuel consumption is one of the most important aspect in customers motivation because they agree and could answer the question about fuel consumption correctly. This crosstabs analysis about fuel consumption is the third indicator that strengthened the respondent's main motivation to purchase low cost green car is financially benefit aspect. First, most of the respondents with 67% of them could answer about the limit fuel consumption question correctly. Second, they are asked about what is main motivation to purchase low cost green car and 88% of the respondents choose financial benefit.

Tax Incentive

As explained in literature review, Indonesian government give the tax incentive to people who buy low cost green car in the form of not subjected to luxury goods tax. This part shows the relation between the question "Do you know that Indonesian government give a tax incentive to people who buy low cost green car" with the likert scale question which is "Driving low cost green car means I get the tax incentive from the government". Most of the respondent strongly agree that they got the tax incentive from the government and 76% of them knew that Indonesian government give the tax incentive, even they didn't know for sure what tax incentive is it. Tax incentive give a significant impact to the selling price of low cost green car in Indonesia. This result also could be a recommendation to Indonesia government that they have to socialize about low cost green car tax incentive better.

Table 4. Crosstabs about Tax Incentive

		Tax Incentive Likert Scale					Total
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Tax incentive question	Yes	0 0,0%	0 0,0%	1 8,3%	17 70,8%	58 93,5%	76 76,0%
	No	1 100,0%	1 100,0%	11 91,7%	7 29,2%	4 6,5%	24 24,0%
Total		1 100,0%	1 100,0%	12 100,0%	24 100,0%	62 100,0%	100 100,0%

Climate Change

Care to environment aspect is different with any other aspect because this is a scientific knowledge and it is assumed that not all of the respondent understand what is climate change. So, this research is using a crosstabs analysis between the question "What is climate change" with the likert scale question which is "Driving low cost green car means reduces the effects of climate change". The result is very positive because 95% of respondents answer correctly and 51% of the respondents agree that driving low cost green car means reduce the climate change. Almost all of the respondent answer about the definition correctly, this result indicates that they have a well understanding to

what is climate change than any other care to environment variable such as carbon footprint and pollution.

Table 5. Crosstabs about Climate Change

		Reduce Climate Change Likert Scale				Total
		Disagree	Neutral	Agree	Strongly Agree	
Climate change Question	Wrong	0 0,0%	1 7,7%	2 3,9%	2 5,7%	5 5,0%
	Correct	1 100,0%	12 92,3%	49 96,1%	33 94,3%	95 95,0%
Total		1 100,0%	13 100,0%	51 100,0%	35 100,0%	100 100,0%

Carbon Footprint

The result indicates that most of the respondents didn't understand what is carbon footprint, even they show a positive attitude to carbon footprint in the likert scale question about carbon footprint, with 47% of them strongly agree that driving low cost green car means reduce the carbon footprint. Contrast with the climate change question, which almost all of the respondent choose the correct answer. This result also indicates that low cost green car owner still have a limited knowledge about environment. In the other hand, even they have a limited knowledge about environment, they show a positive attitude to environment with all the likert scale question about environment answer positively with mostly choosing scale 4 which is agree and scale 5 which is strongly agree.

Table 6. Crosstabs about Carbon Footprint

		Carbon Footprint Likert Scale				Total
		Disagree	Neutral	Agree	Strongly Agree	
Carbon footprint question	Wrong	0 0,0%	11 73,3%	31 83,8%	44 93,6%	86 86,0%
	Correct	1 100,0%	4 26,7%	6 16,2%	3 6,4%	14 14,0%
Total		1 100,0%	15 100,0%	37 100,0%	47 100,0%	100 100,0%

Pollution

Pollution is not a strange things for people who lives in a big city such as Bandung and Jakarta. But, the result of this questionnaire shows that most of the respondents didn't know what pollution is. From 100 respondents, 81% of them choose the wrong answer, but 46 people agree and 39 people strongly agree that driving low cost green car will reduce pollution. This result strengthened that low

cost green car owner is actually care about the environment but didn't have enough knowledge about the environment. The Indonesia government should cooperate with the LCGC manufacturer for giving a knowledge about environment to the consumer of low cost green car, so, they are not only focus with financial benefit.

Table 7. Crosstabs about Pollution

		Pollution Likert Scale				Total
		Disagree	Neutral	Agree	Strongly Agree	
Pollution question	Wrong	1 33,3%	8 66,7%	39 84,8%	33 84,6%	81 81,0%
	Correct	2 66,7%	4 33,3%	7 15,2%	6 15,4%	19 19,0%
Total		3 100,0%	12 100,0%	46 100,0%	39 100,0%	100 100,0%

Conclusion

The purpose of this research is to know what is the relationship between customers knowledge with their motivation to purchase low cost green car in Indonesia. This research also want to know what is the customers main motivation to purchase low cost green car.

Based on the research, customers main motivation to purchase low cost green car is financially benefit. It is also obtained that most of the low cost green car users is single or not married and bought the car with credit system. This is appropriate with the demographic of most respondents which is 17 until 34 years old and IDR 5.000.000 until IDR 10.000.000 earnings per month. People in that age usually doesn't have enough money to buy car with cash and doesn't matter if using a small car like LCGC cars because most of them is still single or not married. The result from the questionnaire indicates that most of the respondents agree that driving a low cost green car means that they could reduce the climate change, reduce carbon footprint, maintain environment health, and reduce pollution. But, when they asked about what is the meaning of climate change, carbon footprint, and pollution, most of them give the wrong answer. This means that they actually care about the environment but as not as much they care about financially benefit aspect.

When asked about the limit of fuel consumption that a car could be categorized as low cost green car in Indonesia most of them give the correct answer and they knew that Indonesian government give the tax incentive to people who buy low cost green car. In the likert scale question with scale from 1-5, financially benefit aspect get the highest rate compare with another aspect such as care to environment, self-image, social norm and pressure, and interested with new technology.

Recommendations

The last but not least, the author would like to give several recommendations and suggestion for the Indonesian government and future research. For Indonesian government, they should give more education to the Indonesian people about how important to care to environment health. It could begin with give more knowledge about environment health to people who buy low cost green car.

For the further research, since low cost green car is new thing in Indonesia, it needs a further research to apply the self-image aspect and interested with new technology in Indonesia. Hybrid car

like Toyota Prius is quite expensive and only middle-high class people could afford it which will give a pride to people who drive Prius. The hybrid technology is said as the future of automotive engineering with in the coming year it is expected that world has to reduce the fuel consumption and switch to another resources such as natural gas or battery.

Only two aspect which could be analyzed by crosstabs analysis which is financially benefit aspect and care to environment because self-image aspect, social norm and pressure, and interested with technology is translated from the hybrid car journal and it needs a further research to be applied in low cost green car research in Indonesia.

References

- Oliver, Jason D. & Lee, Seung Hee, 2010. Hybrid Car Purchase Intentions : A Cross-Cultural Analysis. *Journal of Consumer Marketing*, 27 (2) pp.96-103.
- Ozaki, Ritsuko & Sevastyanova, Katerina, 2010. Going Hybrid : An Analysis of Consumer Purchase Motivations, 2217-2227.
- Coad, Alex & Haan, Peter de & Woersdorfer, Julia Sophie, 2009. Consumer Support for Environmental Policies : An Application to Purchase of Green Cars. Vol.68 pp.2078-2086.
- Creswell & Miller, 2007. Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*. Vol.8 pp.597-607.
- Churchill, Gilbert A. & Iacobucci, Dawn, 2009. *Marketing Research : Methodological Foundation*. Vol.10.
- Kahn, M.E., 2007. Do greens drive hummers or hybrids? Environmental ideology as a determinant of consumer choice and the aggregate ecological footprint. *Journal of Environmental Economics and Management*. Vol.54 pp.129-145
- de Haan, P., Mueller, M.G., Peters, A., 2006. Does the hybrid Toyota Prius lead to rebound effects? Analysis of size and number of cars previously owned by Swiss Prius buyers. *Ecological Economics* Vol.58 pp. 592-605
- Ozaki, R., 2009. Adopting sustainable innovation : what makes consumers sign up to green electricity? *Business Strategy and the Environment*.