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**An Integrated Qualitative and
Quantitative Approach to Make a
Marketing Strategy for China's Premium
Car Market**

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September 2014

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Major in System Design and Management

SUMMARY OF MASTER'S DISSERTATION

Student Identification Number	81234602	Name	Xiaoxiang LU
Title An Integrated Qualitative and Quantitative Approach to Make a Marketing Strategy for China's Premium Car Market			
Abstract <p>In China, with the rapid economic growth, the auto market, including the premium car market, is also booming. China is expected to replace the U.S. to become the world's largest premium car market in 2020. However, in this fierce business competition, Japanese carmakers fail to obtain the same market share as they have in the U.S.</p> <p>Some people doubt whether China's market will grow as well as forecasted due to restrictions on cars for environment protection. It is therefore necessary to point out that the number of cars is not the main cause for huge CO₂ emission; the main reason is inefficient gasoline production technology. Some people argue that the political risk may impede the performance of Japanese car brands in China. However, recent study shows that the low market share of Japanese car brands has lingered for quite a long time. The poor performance does not exist in other industries; Japanese cameras, for example, still enjoy a large market share in China. Hence, this research focuses on proposing marketing strategies to increase Japanese market share in China's premium car market.</p> <p>This research integrates qualitative analysis and quantitative analysis. Qualitative analysis is for formulating the research questions about interview results of the car dealers in China. Quantitative analysis is for forecasting future sales of Japanese premium car brands to improve the market share in China and understand Chinese consumer preference on each attribute of a premium car. Following the research objective, Grounded Theory Approach is used in qualitative analysis, and Bass Model and Conjoint Analysis are used in quantitative analysis.</p> <p>The result shows that Japanese premium car brands will have low market share in China until 2020 and Chinese consumers prefer German cars rather than Japanese cars. The results of Grounded Theory Approach and Conjoint Analysis show that Chinese consumers misunderstand the safety level of Japanese car brands. What-if Analysis of market share then proves that the branding strategy is the most efficient in increasing the market share. The coefficient results of Bass Model find that imitation effects, such as word-of-mouth, are more effective than innovation effects such as traditional advertisement. Based on the findings, marketing plans are proposed to increase the market share, which are validated by the stakeholders.</p>			
Key Word(5 words) demand forecast, consumer preference, marketing plan, qualitative analysis, quantitative analysis			

Abstract

1. Introduction	7
1.1 Research Background.....	7
1.1.1 Increasing GDP in China	7
1.1.2 Growing car market size in China	8
1.1.3 Growing premium car market in China	9
1.2 Research problem.....	11
1.2.1 Severe environmental issues	11
1.2.2 High political risk in China	12
1.2.3 Low market share for Japanese premium auto maker	14
1.3 Research motivation.....	19
1.4 Research purpose	20
1.5 Research objective	20
1.6 Structure of this thesis	20
2. Chinese premium car market	21
2.1 Automobile industry development in China.....	21
2.2 Definition of premium car	23
2.3 Consumer behavior	24
3. Literature review	28

3.1 Literature on premium brand in China.....	28
3.2 Literature on premium car consumer in China.....	30
3.3 Originality of this research.....	35
4. Research methodology.....	37
4.1 Research method design.....	37
4.2 Qualitative method.....	37
4.2.1 The representative qualitative method.....	37
4.2.2 Grounded Theory Approach.....	42
4.2.3 Procedure of analyzing Grounded Theory Approach.....	43
4.2.4 Procedure of Grounded Theory Approach in this research.....	44
4.2.5 Storyline of transactional system.....	45
4.3 Quantitative method.....	51
4.3.1 Demand forecast.....	51
4.3.1.1 Bass model.....	51
4.3.1.2 Estimate of parameter for Lexus, Benz and Audi.....	53
4.3.2 Consumer Preference.....	58
4.3.2.1 The purpose of analyzing the consumer preference.....	58
4.3.2.2 Conjoint Analysis.....	59
4.3.2.3 The design of attribute and level.....	61
4.3.2.4 Type of Conjoint Analysis.....	64

4.3.2.5 The implementation of questionnaire	64
4.3.2.6 Data collection.....	65
4.3.2.7 Description on responders	65
4.3.3.8 Conjoint Analysis result.....	69
4.3.2.9 Simulation of market share.....	72
4.3.2.10 Market share result	73
4.3.2.11 What-if Analysis of market share	74
5. Discussion.....	80
5.1 Contribution to plan marketing strategy.....	80
5.2 Contribution to the academic use.....	85
6. Conclusion	86
7. Acknowledgement.....	88
Reference	90

List of Table

Table 1 Global premium car sales ranking, per 1000 units	10
Table 2 Summary of the difference between this research and others	36
Table 3 Summary of Qualitative Method	41
Table 4 Coefficients of Each Brand in China's Premium Car Market	54
Table 5 Design of Conjoint Analysis in This Research.....	61
Table 6 Utility Score of Each Level	69
Table 7 Market Share of Simulated Product.....	75
Table 8 Scenario for Pricing Strategy	76
Table 9 Scenario for Branding Strategy	77
Table 10 Scenario for Car Type Strategy	78
Table 11 Scenario for Energy Strategy	79

List of Figure

Figure 1 China's GDP Per Capita, dollars.....	7
Figure 2 Car Sales in China, thousands units	8
Figure 3 the Distribution of PM 2.5 in the World.....	12
Figure 4 Annual car sales in China by companies, units.....	15
Figure 5 Sales of premium car thousand 2012 in China, thousand units	16
Figure 8 China's automobile total production, 10 units.....	22
Figure 9 China's thousand ownership, 10 thousand units.....	23
Figure 10 Model of consumer behavior	26
Figure 12 Process of Conducting Grounded Theory Approach	43
Figure 13 Process of Conducting Grounded Theory Approach in This Research	45
Figure 14 Sales Forecast of Each Brand in China's Premium Car Market, units	55
Figure 15 Market Share Forecast of Each Brand in China's Premium Car Market.....	56
Figure 16 Sex Distribution of Responders.....	66
Figure 17 Age Distribution of Responders	66
Figure 18 Education Level Distribution of Responders	67
Figure 19 Salary Distribution of Responders.....	67
Figure 20 License Ownership Distribution of Responders.....	68
Figure 21 Car Ownership Distribution of Responders	68
Figure 22 Desire for Owning Premium Car of Responders.....	68
Figure 23 Importance of Each Attribute.....	69
Figure 24 DIY Service in Nike's Case.....	81
Figure 25 Safety Level Score from Euro NCAP.....	82

1. Introduction

1.1 Research Background

1.1.1 Increasing GDP in China

In the last fifteen years, China's economy has been growing incredibly fast. According to ICP 2011 report from the World Bank (2014), China's GDP's growth rate has been at least 7.6% since 1999, its GDP accounts for 14.9% of the world total in 2011 and China is likely to overtake the U.S. and become the world's largest economy in 2014. Thanks to the increasing GDP, Chinese now have much stronger purchasing power. As Figure 1 from the World Bank shows, in 1999, China's GDP per capita was only 865 US dollars; in 2012, it rose to 6,091 US dollars, or eight times than that of 1999. To summarize, because of the strong economy, China is growing from the world factory to

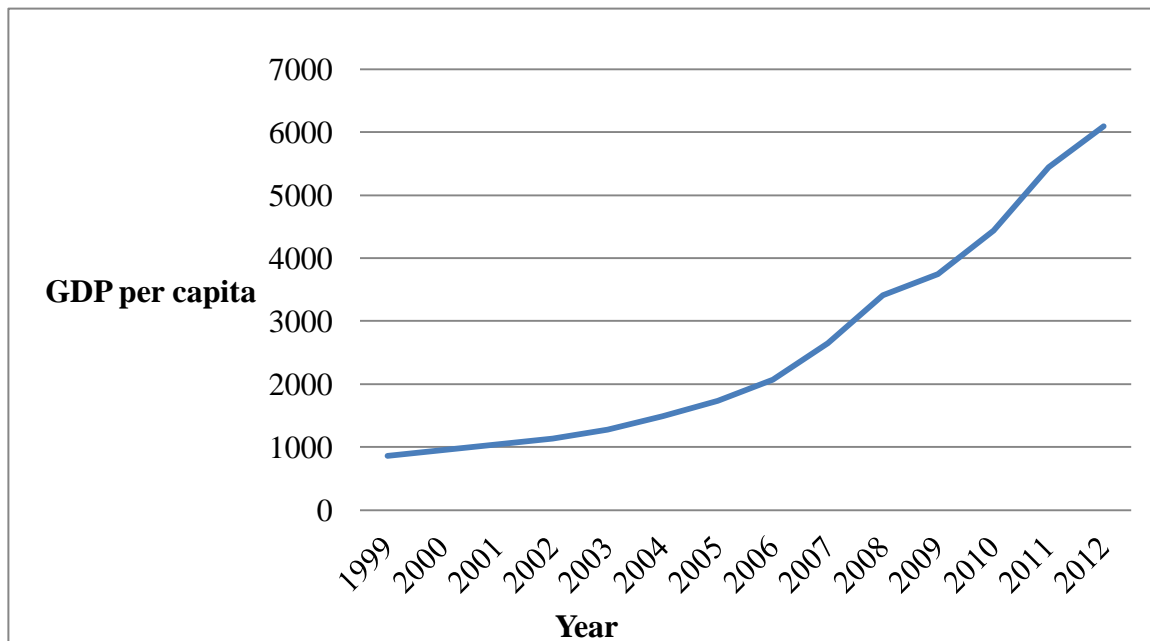


Figure 1 China's GDP Per Capita, dollars

the world market.

1.1.2 Growing car market size in China

China's car market is also growing. According to Figure 2, in 2009, car sales in China was over 13 million cars, which surpassed that of the U.S., making China the largest car market in the world. In 2010, the car sales reached 18 million, a world record high for annual car sales. China is and will continue to witness increasing car market.

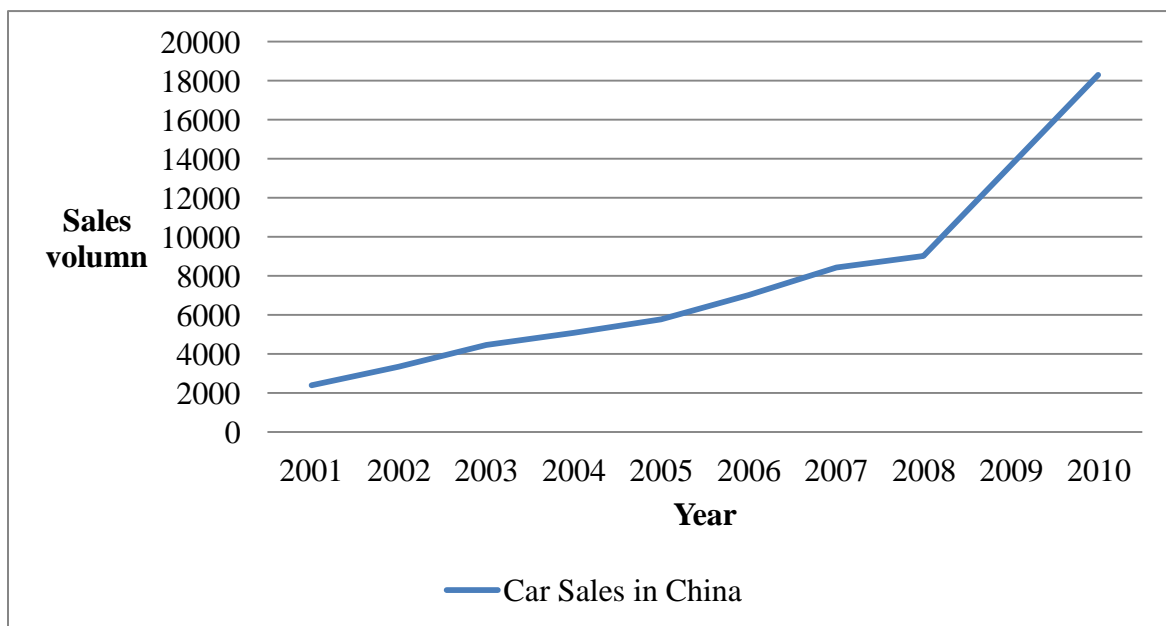


Figure 2 Car Sales in China, thousands units

According to Du (2011), in 2010, the number of motor vehicles per 1000 people was only 54 in China, which was far behind the world average. However, it is forecasted that the figure will reach over 600 in 2045, suggesting a huge growth potential for China's car market. The large market size has made China the world's most important car market for all the automakers.

1.1.3 Growing premium car market in China

China's premium car market is also growing rapidly. According to EUSME Centre (2012), in 2000, over 94% of Chinese people's annual income was lower than 5,000 US dollars. However, in 2010, over 50% of Chinese people's annual income was more than 5,000 US dollars. It is forecasted that approximately 80% of the Chinese people's income will be higher than 5,000 US dollars, and 13% will have an upper class income over 35,000 US dollars. This shows that more Chinese people will be able to afford premium cars, indicating a larger demand for premium cars in China.

Not only the first-tier cities, but also second-tier and the third-tier cities will have higher demand in the future decade. In 2001, more than 60% of the wealthiest Chinese came from the first-tier cities. In 2012, over 70% of wealthy Chinese came from the second-tier and the third-tier cities. The percent will be higher in 2020. Thus, premium carmakers will not only focus on the metropolises, such as Beijing and Shanghai, but also the second-tier and third-tier cities. Judging from the increasing demand for premium cars in China, the annual sales of premium cars are forecasted to continue increasing.

Table 1 Global premium car sales ranking, per 1000 units

	2002		2012		2020		2002- 12	2012- 20
	Sales	Rank	Sales	Rank	Sales	Rank	Growth Rate	Growth Rate
China	57	14	1,246	2	3,000	1	36%	12%
America	1,670	1	1,700	1	2,327	2	0%	4%
Japan	147	7	202	7	191	8	2%	0%
Germany	1017	2	947	3	1067	3	-1%	2
United Kingdoms	436	3	530	4	592	4	2%	1%
Italy	354	4	250	5	350	5	-3%	4%
France	192	5	228	6	282	7	2%	3%
Spain	162	6	118	10	178	9	-3%	5%
Canada	108	8	159	9	169	10	4%	1%
Russia			186	8	295	6	31%	5%

Table 1 indicates that although the U.S. premium car market remains the world's largest for now, China's premium car market has increased at an incredible rate of 36% annually between 2002 and 2012, faster than the annual growth of China's overall car market (Sha, S., Huang, T. & Gabardi, E., 2013). In 2012, premium car sales in China

was 1.25 million, making China the second largest premium car market in the world, only behind the U.S. Japan's premium car market was growing slower than China's premium car market. By 2020, China's premium car market will be growing at an average rate of 12%, which means the annual premium car sales will reach three million. China is also likely to surpass the U.S. as the world's largest premium car market by 2016, when annual sales are forecasted to be 2.25 million (Sha, S., Huang, T. & Gabardi, E., 2013). Considering the huge potential in China's premium car market, the carmakers are going to face more fierce competition in the future decade.

In conclusion, thanks to the strong economy, China's premium car market is expanding rapidly, even faster than China's overall passenger car market. Hence, for all premium carmakers, grabbing a larger pie in China's premium car market is extremely important to enhance their global competitiveness.

1.2 Research problem

1.2.1 Severe environmental issues

China has been plagued with severe environmental issues, especially serious air pollution brought by the rapid economic growth. PM 2.5 (particles smaller than 2.5 micrometers) may cause the high incidence of lung cancers (Fukushima, 2013). Figure 3 (van Donkelaar, 2010) is the distribution of PM 2.5 in the whole world, which shows how serious the pollution is in recent years, especially in China.

It is widely known that Beijing, the capital city of China, is facing serious air pollution since the beginning of 2013 caused by the high concentration of particulates in the air. This dangerous pollution is not confined to Beijing, but also most of China.

Several reasons were given to explain why the PM_{2.5} was so dense in Beijing (Hatayama, 2014). Of all the PM_{2.5}, 22% comes from the car exhaust, 17% comes from coal burning.

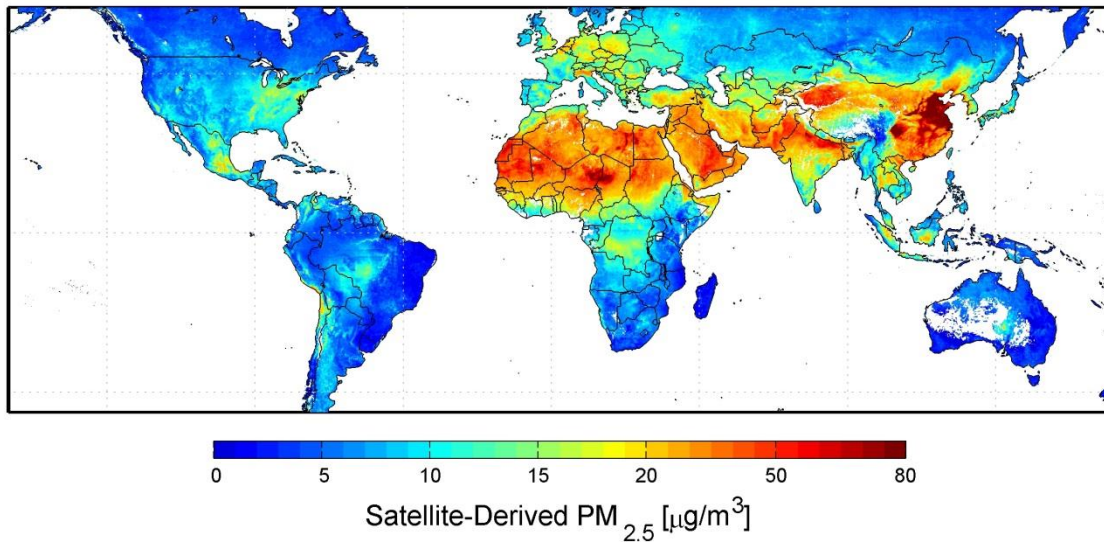


Figure 3 the Distribution of PM 2.5 in the World

16% comes from dust, 16% comes from painting, and 4.5% comes from straw burning in rural China. However, the large percentage of PM_{2.5} coming from car exhaust is not because of the number of cars, but low desulfurization rate in the process of producing gasoline at the factory. Therefore, limiting the number of cars may only relief the situation in the short run. The long-term solution requires the government to improve the technology for producing high quality gasoline.

In conclusion, although China is facing the severe environmental issues, such as PM_{2.5} pollution currently, the effective solution is not to restrict the number of cars in the city, but to improve the technology of refining the oil during the production.

1.2.2 High political risk in China

It seems that in China, the political risk is high to those Japanese brands, due to the reason of dispute island issue. In the beginning of the September 2012, for the sake of protesting against the decision of the nationalizing Sengaku Island (Diaoyudao in Chinese) made by the Japanese government, anti-Japan protest marches occurred in many Chinese cities massively. Much more seriously, during the protest marches, many Japanese brands' products were destroyed by the violence. By looking through the economic lost, this protest event was seen as the most serious anti-Japan event in China since the war between Japan and China which was 83 years before (Asahi News, 2012). To deal with this severe situation, many Japanese companies decided to stop the production line to avoid the damage from the protesters in China. Auto makers were also included in this case. At that time, Toyota decided to close 9 factories in China, even including the part production line as well, and did not decide the time for starting anew. Nissan decided to close 4 factories in China and to restart the production line 2 days later. In conclusion, it is no doubt that the high political risk is an important reckoned factor to Japanese auto makers from the island issue.

In addition, although after two months from the protest event, several Japanese industries, such as convenient shop and electronic manufacture, recovered the sales performance to reach the same level before the island issue happened, Japanese auto makers were still struggling with the sales in China until October 2013. This is because that even though Japanese auto brands are well known in China, the rate of brand support is low. According to Sakata (2012), two reasons were explained. First, because of the late decision for entering the Chinese car market, it still needs time for Chinese consumers to know the strong points of Japanese car in whole China. Second, though Japanese cars

have the image of economic fuel cost, it is difficult for the Chinese consumers get the benefits without utilizing it. What's more, Hybrid car, as the strongest car type for Japanese automakers, is facing the problem of high price which causes the low sales. To sum up, it is hard for Chinese consumers to accept Japanese automakers because of the lower brand strength in China.

In conclusion, most of Japanese companies got severe damage from the anti-Japan protest event. Nevertheless, many of them recovered after 2 months, except some industries such as Japanese auto industry. Some scholars think the low recover rate is not because of the anti-Japan emotion. Instead of that, they insist that it is because of the lower brand strength which caused the bad sales performance of Japanese automobile brands in China.

1.2.3 Low market share for Japanese premium auto maker

As it has been mentioned before, China's car market is growing at a high rate in these years. Nevertheless, this situation is not optimistic for every automaker company. Actually, the annual sale in China in recent year is developed impressively by different auto makers. According to the result on Figure 4, VW (Volkswagen) perform well in China's car market at a rapid growth rate from 2005, compared with other world scale automakers in China. For example, although VW is not the world largest car company, VW's annual sale reached to over 2.5 million cars in China in 2012, which is over 3 times of world largest automaker Toyota, whose sale was only around 700 thousand cars in 2012. In addition, other Japanese automakers, Nissan and Honda, are in the same situation as Toyota, which has a huge different performance compared with VW.

Therefore, in the last few years, the Japanese auto makers' sales performances cannot compete with VW in China.

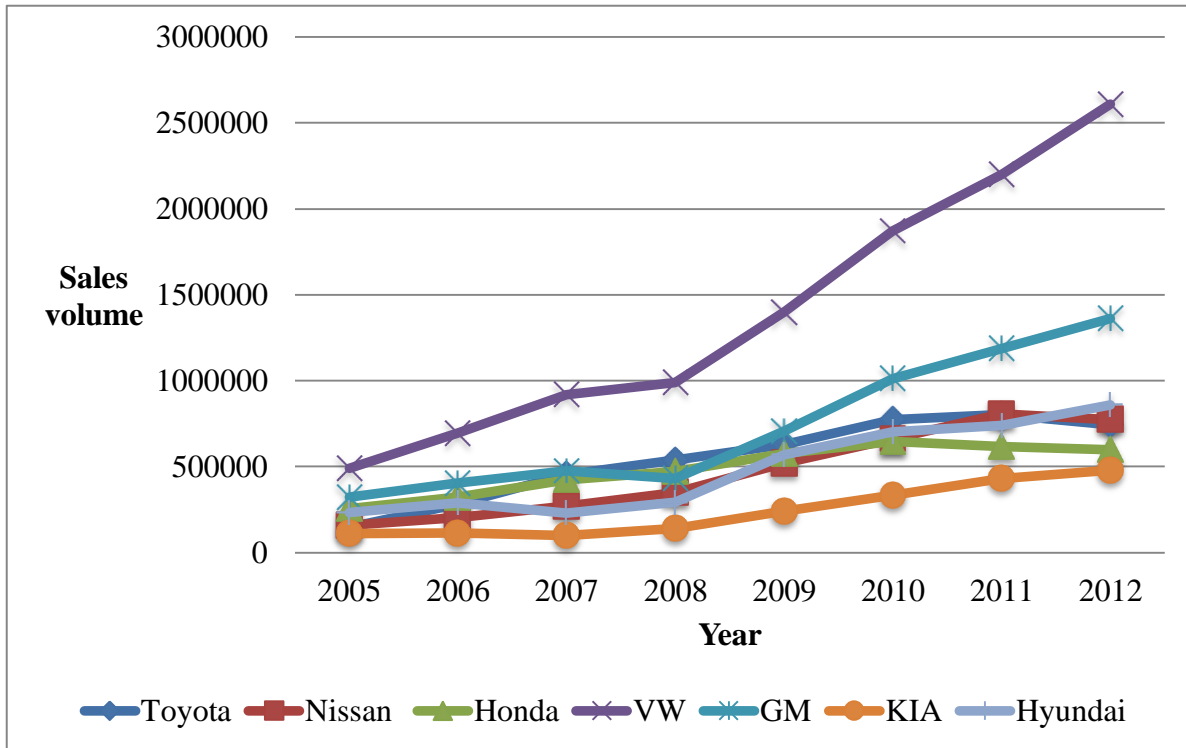


Figure 4 Annual car sales in China by companies, units

The same situation happened in China's premium car market as well. Figure 5 shows the sales of premium car brands in China in the year of 2012. The sales performance is clearly divided by the brands that the top 3 sellers, Audi, BMW, Benz, are all coming from Germany. In 2012, the sale of Audi in China was 405.8 thousand cars in China as the best seller, while BMW had 326.4 thousand cars sold and Benz had 196.2 thousand cars sold in China as the second and the third place. However, the gap between other brands and these three German brands is too large. For instance, in 2012, Lexus's

sales in China reached to 64.1 thousand cars, which were around one-third of Benz's sale and one-sixth of Audi's sale. Much seriously, in 2012, Acura which belongs to Honda was sold 2.3 thousand cars in China. Therefore, in China's premium car market, the sales performance of each brand can be clearly recognized by the nationality of the brand. Moreover, how to increase the sales and take over the market share in China is one of the most essential assignments for every Japanese premium car brand to solve in the current situation.

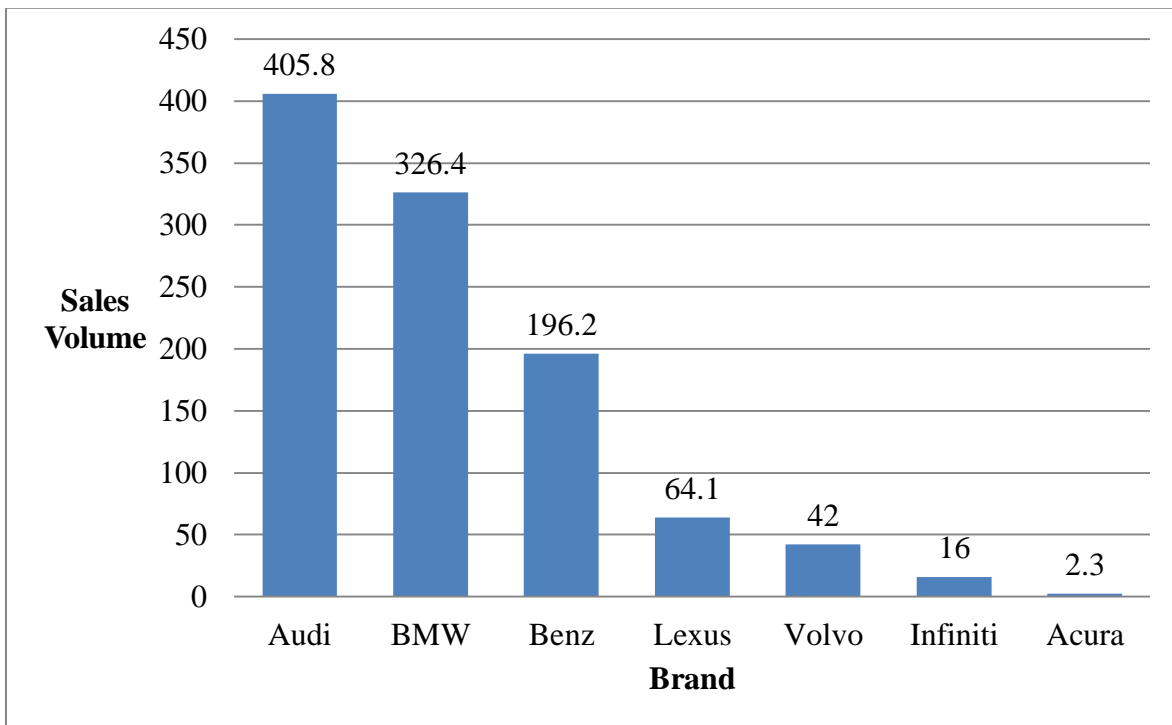


Figure 5 Sales of premium car thousand 2012 in China, thousand units

Imported car is one of the most important groups of the premium car market. Figure 6 shows the imported car categorized by country-of-origins in China from year 2009 to year 2012. It is cleared shown that the imported car market share of European made car including German cars are getting larger that the imported market share of

European cars has been growing from 48.4% to 67.3%. In the contrast, the market share of imported car came from Japan is getting lower. In 2009, the market share was 35.2%, however, in year 2012, it decreased gradually to 19.2% only. Moreover, according to Figure 7, the units of imported premium car in China in year 2012, shows that the European car makers, especially German car makers, take the majority of the whole imported car market.

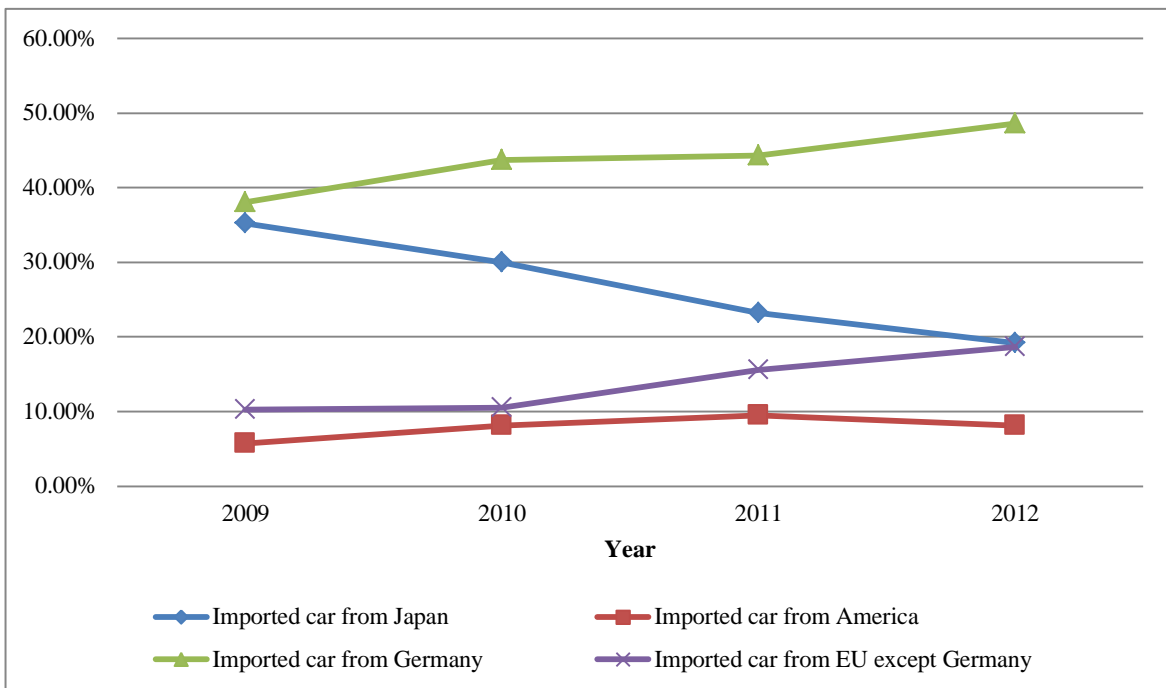


Figure 6 Imported Market share of imported car in China by region

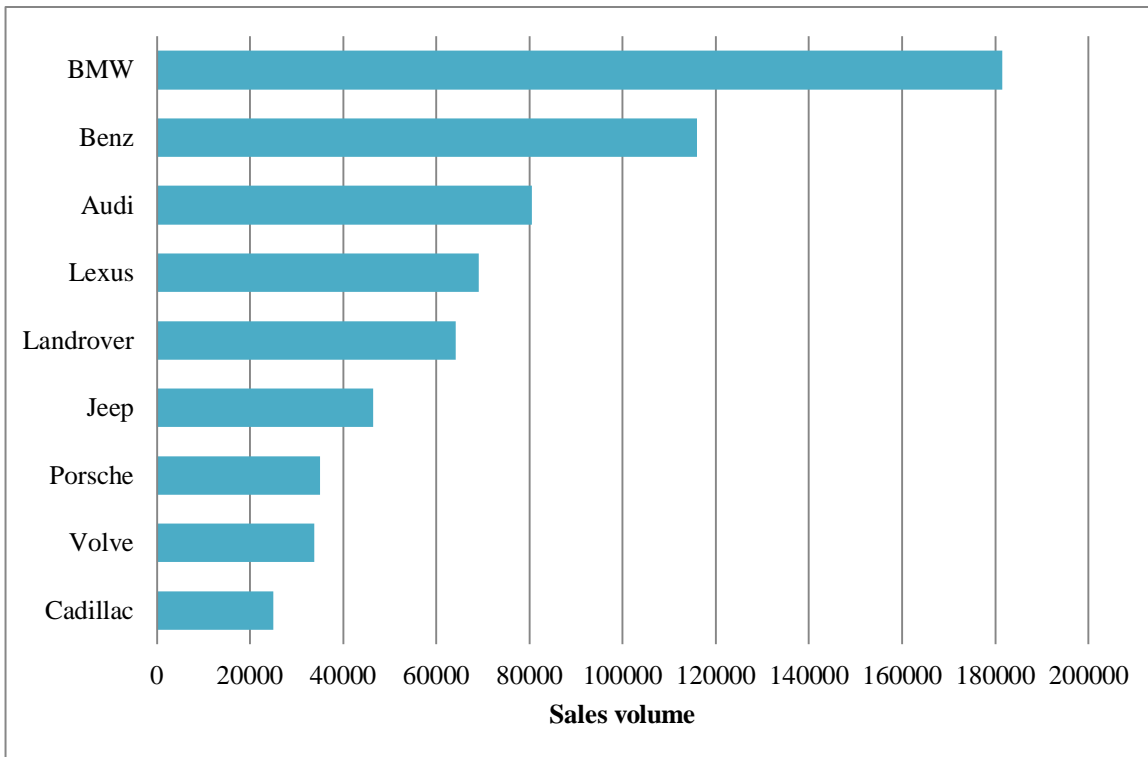


Figure 7 Premium Car in China by Brands, units

Therefore, based on the historical data of the overall sales of each brand in China, the sales trend of each brand is performed on a long-term scale. The political risk may affect the sales of the Japanese car brands seriously, but only in a short-term. The longest impact of the political risk for Japanese automobiles until right now is the island dispute happened in 2012. It cost nearly 1 year to recover the sales performance. Therefore, it is no doubt that the political risk affects the sales performance of Japanese automakers. However, to figure out this problem as a long-term issue, the political risk seems not be the most significant effect on the current stage. In conclusion, instead of avoiding the political risk, making the right corporate strategy and marketing plan are much important

to twist the problem caused by political risk to take over the China's premium car market share from other nationalities brands.

1.3 Research motivation

As a Chinese living in Japan for over five years, I have experienced so many misunderstanding things between two countries' citizens that two countries' media have a strong bias of citizen's mind. Although it is no doubt that the political risk is a serious issue between countries, which badly influence the Japanese industries in China and also cause the Japanese car makers to change their strategy in a conservative way, from the author's point of view, the political issue is not the only reason which caused the severe situation right to Japanese automobile industries in China now. As the background introduced in this thesis before, political risk is only an effect in a short-term which causes the low market share temporarily. However, by looking through the sales performance in a long-term, Japanese car makers are losing their market share gradually, while Volkswagen is enlarging its market share greatly. As a foreign student studying in Japan, I truly notice that the good quality and high technology level of products can be figured out in anywhere in Japan. Thus, the reason why those goods which are in a good condition cannot be sold so well in other countries becomes my research motivation. Also, exploring the reasons except the government problem or anti-Japanese emotion will be also another motivation for me doing this research continuously.

In conclusion, the motivation of this research is to review the core problem for Japanese car makers in China's premium car market, which convince the makers do not always argue with the political issues, happened between China and Japan.

1.4 Research purpose

The research purpose of this thesis is to increase the market share of Japanese premium car in China by analyzing the severe situation for Japanese premium car brands currently.

1.5 Research objective

The research objective of this thesis is to provide several marketing plans to increase the market share of Japanese premium brands in China by analyzing the Chinese consumer's preference on the premium car in the aspect of not only the functional side, but also in the design side. Moreover, for gaining the appropriate research result, Ground Theory Approach, Conjoint Analysis, and Bass Diffusion Model will be utilized in this research for analyzing the result critically.

1.6 Structure of this thesis

In this thesis, the structure is designed by mainly 5 parts. At the beginning of the thesis, the introduction of China's premium car market is going to be introduced to show how low competitive Japanese premium car brands are. Then, the literature review is discussed to state the previous researches related to the research topic and also present the originality of this research to differ with the previous researches. Thirdly, three methods are provided to formulate the research questions and find out the insights from the research results. Next, based on the result, the discussion on a marketing strategy is held to deliver marketing plans, and also get the feedback by conducting interviews with those stakeholders. Finally, the conclusion contained the findings and validation from the research is demonstrated, and the future work will be represented as well.

2. Chinese premium car market

2.1 Automobile industry development in China

China's passenger car industry began in the 1950s, which was mainly focused on trucks. This situation had been continued until 1978 by the central planning economic system (Chu, 2011). However, according to Figure 8, after 30 years long waiting, China started to produce the passenger car that from the beginning of 1990s, China's passenger car market began to boom and it was growing rapidly from less than 10 million in 2001 to around 40 million in 2006. The reason why two booms were happening in the beginning of 1990s and the beginning of 2000s is because, in the late 1980s, the Chinese government decided to support three major automobile manufacturers for the aim of developing automobile industry. Thus, those companies decided to do make a joint venture with the foreign companies so that in the beginning of 1990s, it had a boom in the number of passenger car production in China. Also, in the beginning of 2000s, China was successfully becoming a member of WTO, which indicates that China's passenger car industry would end up with strict government regulation and open the market to the whole world. That directly caused the second boom in China's passenger car market.

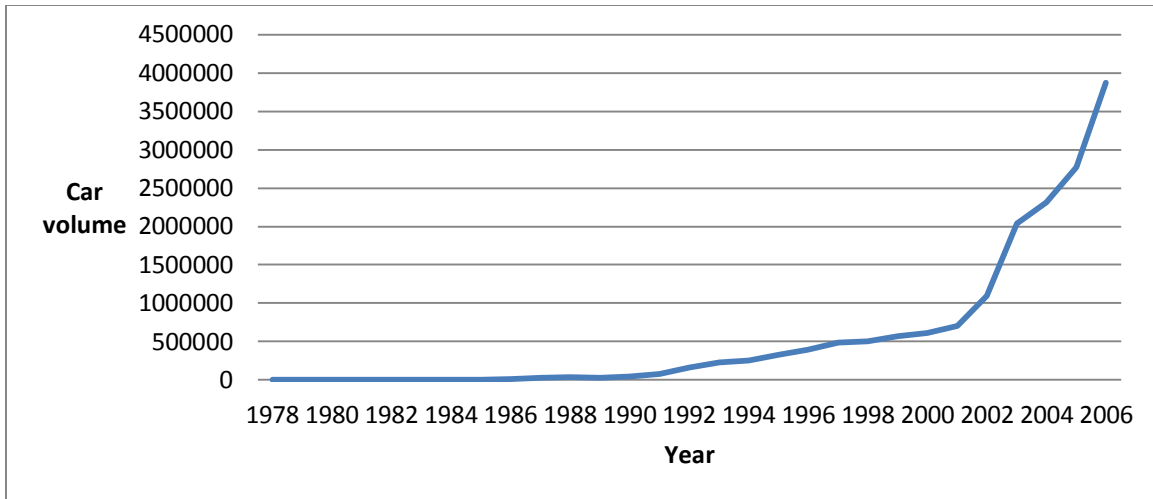


Figure 8 China's automobile total production, 10 units

Figure 9 shows how the automobile ownership developed in China. Generally, it moves similar as the automobile production does. Especially after China joined WTO, the government regulations were changed dramatically to promote the automobile market. For example, according to Yu, Lu and Luo (2013), the Chinese government decided to release the control on the car prices, and allow the individual manufacturer to determine the price at which they would sell. Therefore, because of these movements from Chinese government, it is much free and easier for the consumers to purchase their ideal cars. Thus, according to figure 9, it is clearly known that after 2000, the China's automobile ownership appears a great growth, which is nearly to 90 million cars in the passenger car market in China.

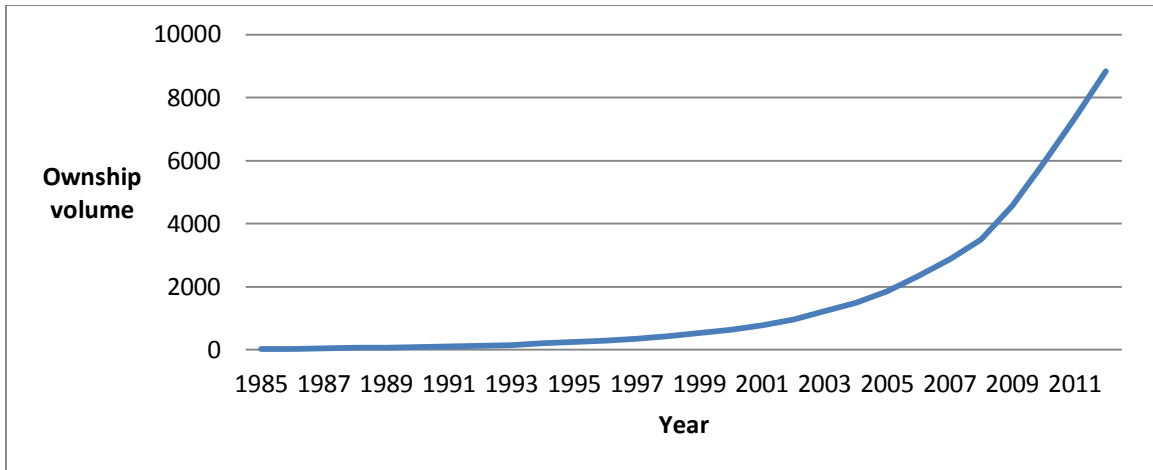


Figure 9 China's thousand ownership, 10 thousand units

In conclusion, China's passenger car industry was developed rapidly because of the policy proposed by the Chinese government. That not only leads to the great production of passenger car, but also promotes the passenger car sales domestically as well. Moreover, China's automobile industry is forecasted to grow as well from nowadays, which shows the value of study on automobile industry will influence the market a lot in the future.

2.2 Definition of premium car

To date, there is no method for car segmenting and no clear definition of premium cars in China. Commission of the European Communities (1999) classifies cars into A, B, C, D, E, F, S, M, and J class. Premium cars can be close to D, E, F, and J class, or large cars, executive cars, luxury cars and sport utility cars (SUV), but with an obscure definition. In addition, China does not have a clear definition of premium cars as well; it only provides different car segments. China New Car Assessment Program (2013)

classifies cars into A, B, Small, SUV and MPV classes, without any description of the premium car market. In addition, Chen (2011) classifies premium car brands into three types: normal premium, sports premium and super-premium. Normal premium brands include world-renowned ones such as Audi, Benz, BMW and Lexus whose prices are around 400, 000 RMB to 1 million RMB. These brands enjoy 95% of China's premium car sales. Sports premium brands include Porsche, Ferrari, and Lamborghini. Super premium brands, Maybach for example, are similar to Luxury brands and only take up 1% of the sales. However, the premium car segmentation is divided the premium car category by the price and brands. In conclusion, no clear and official definition of premium car has been provided in China. Some of the definitions are based on the brands. In addition, some of the definitions are based on the size of the car.

In this research, premium car is divided into Conventional class, SUV class, Sports class and Mini class by considering both Chinese and European car segment methods. Additionally, current premium car brands, for example, BMW, Audi, Lexus, and Benz, are also considered. To sum up, premium car is defined as the car which belongs to a current existed brand in Conventional class, SUV class, Sports class and Mini class.

2.3 Consumer behavior

Consumer behavior is defined as the behavior that consumers display in searching for, purchasing, using, evaluating, and disposing of products, services, and ideas. Thus, the consumer behavior is the study which focuses on how individuals or groups make a decision to spend their own resources to consumer products, services, ideas or

experiences (Kotler & Gary, 2009). That includes all the processes, such as searching for information of products, such as the feature, the location, the preference, the price, the time, and the frequency of using the products or services. Moreover, it also involves the actual purchase, for example, what kinds of features do they look for, or the reason why they want to use it, or what kinds of benefit do they want (Leon G.S & Leslie L.K.). Therefore, the study of consumer behavior is seeking to understand the thoughts, the feelings, and actions of consumers by analyzing the characteristics of individual consumers. Moreover, this study is considered as the most important study in marketing management that it is much easier to sell more goods which the consumers would buy for sure. Instead of persuading the consumers to buy the products had been already produced. Therefore, it is important that for the companies or firms to get well known of the needs and priorities of different consumer segments. In addition, based on the discovery of analyzing the consumer behavior, the new design of products and marketing strategies will be made for consumer needs.

It is important to know the process as a model which will help the marketers understand the consumers respond to various marketing efforts.

According to Figure 10, the decision-making process can be seen as three aspects, the environmental effect, the buyer's black box, and the buyer responses (Kotler & Gary, 2009). The environmental aspect is considered the as the external influence, such as the marketing stimuli, economic stimuli, technological stimuli and cultural stimuli. Additionally, the marketing stimulus involves 4 sub-aspects, product, price, place and promotion. All these inputs will be transferred into the buyer's black box, where they will be turned into the buyer response that is the relationship between brand and company to

the consumers. Thus, according to this stimulus-response model of consumer behavior, to understand the characteristic feature of consumers and the factor of decision process is the key to for the marketers to how the stimuli are changed into the buyer response.

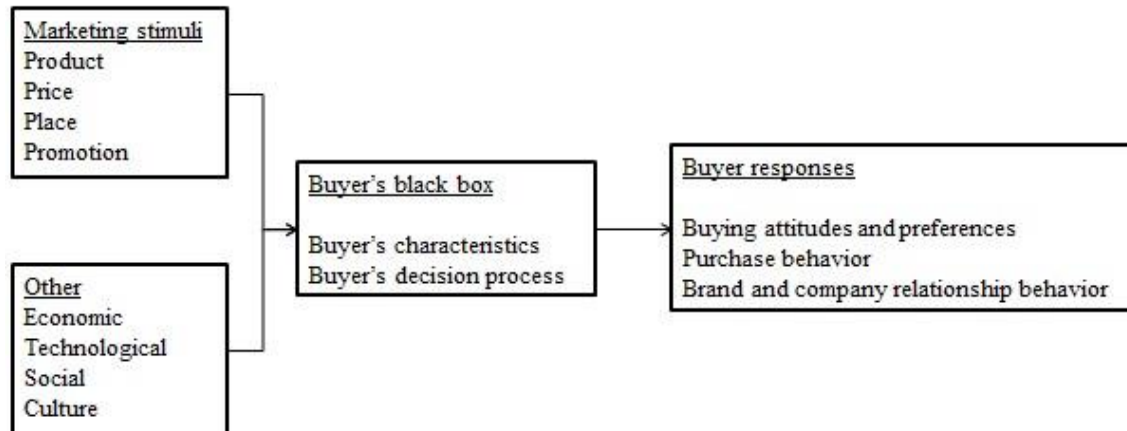


Figure 10 Model of consumer behavior

Figure 11 shows how the consumers make buying decisions, which has five stages: need recognition, information research, evaluation of alternatives, purchase decision, and postpurchase behavior. Need recognition means that the consumer recognizes that he/she needs a service or product, which is stimulated by the internal stimuli. Information search refers the consumers may need to undertake an information search if they do not have a strong confidence in their choices. Therefore, in this stage, the consumers may ask their friends or get information from the internet, advertisement, or gathering the information in other ways. Evaluation of alternatives is important to the decision making that consumers will evaluate this information they received before and choose the products or service among those alternative brands. Thus, this stage is

important for the companies to differ the market by making an advanced attribute compare with the competitors. Purchase Decision is the stage that the buyers are making a decision about which brand to purchase. Basically, people may buy the most preferred brand, but two factors can affect the decision between the purchase intention and the purchase decision. The first factor is the attitudes of others. The second one is the unexpected situational factors, such as the income, the price and the product benefits. The last stage is called post-purchase behavior, which is to find out the products or the services are satisfied by the consumers or not. This is important to the marketer for avoiding the conflicts with consumers.

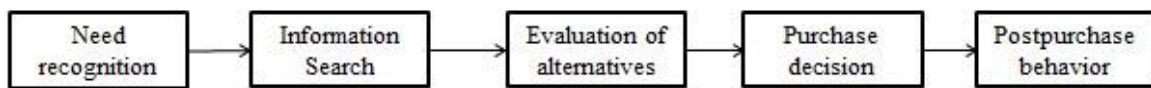


Figure 11 Buyer's decision process

In conclusion, the overall decision process will help the markets to figure out the ways to lead the consumer through it. In other words, to understand the decision process will impact to the sales of products directly, which is the core part of marketing management. Moreover, this research will focus on the stage of information search and evaluation of alternatives, because China's premium car market is still in developing the condition which is essential to understand the feature of how the Chinese consumers search for the information and evaluate the alternatives by their preferences.

3. Literature review

3.1 Literature on premium brand in China

Chinese consumers in general have higher loyalty intention than western consumers (Zhang, Doorn, and Leeflang, 2014). In this research, China and The Netherlands are represented as a sample of eastern country and western country. It is said that in China, using some marketing strategy such as advertising and sales promotions is relatively low, which shows that Chinese consumers are less responsive to normal marketing than other countries. However, it is also said that Chinese consumers who are influenced by the long-term orientation have more brand loyal than the western consumers. In other words, Chinese consumers are much preferred the brand image than western consumers. However, this research only provides two service fields, banking and supermarket, which has less evidence in the area of product field. Therefore, although this study shows a great result of the brand preference in Chinese consumer's mind, the limitation of the researched industry cannot provide enough evidence to show it will be the same situation in the premium car market as well.

Frank, Abulaiti, Torrico and Enkawa (2011) explain the different consumer preference structures among Chinese, Japanese, and German consumers. Chinese consumers are influenced more strongly by perceived value, public brand image and quality expectations and less by perceived quality. Therefore, because of the high perceived value in China, the managers are suggested provide a great public brand image and positive pre-purchase quality expectation. Moreover, the managers should also pay attention to the attribute of low price. However, in this study, the researchers do not

consider the different purchasing power between the urban area and rural area in China. In conclusion, although this research gives a fascinating comparison of three different countries, the limitation of the demographic issue should be considered in the study.

Ackerman, Hu, and Wei (2009) suggest the small firms in China would have benefits from some connections with the government by giving an example of Volkswagen in Chinese automobile markets. Because of the high involved Confucianism in China, the Chinese consumers are highly influenced by the government during the consuming process. Therefore, by utilizing this finding, for those who are in the initial or growth stage of the market, government endorsement may be an effective plan to win the consumer acceptance of the products easily. However, although it is true that the government's impact is really huge in the market, which influences consumers' minds a lot. Using a sample of FAW is not a good choice, because FAW also has a joint venture with Toyota as well, which the sales result has a huge difference between FAW-Volkswagen and FAW-Toyota. To summarize it, in this result, the finding from an empirical study cannot support the hypothesis.

Fetscherin and Toncar (2010) indicate that consumer's brand personality perceptions varied by the country of origin of the brand and country of manufacture of the brand. The brand personality can not only lead to differences in consumer perceptions, but also give insights as well. The location of the manufacturing site has a strong influence on consumers, because the consumers develop their brand perceptions and are affected by the perceived personality of the car. Moreover, brand personality for a developing country car manufactured in the developed country is stronger than the developing country. Therefore, those car makers, such as Toyota, Honda, and Hyundai

undertake the strategy to produce the car in the USA to increase the brand personality in the developed country market. This finding is not only occurring in the case of car makers, but also happened in other industries, such as electrical firms. One good example is introduced that Haier produce various products in the USA and had a real success in the American market as well. In addition, those developed country automotive companies which are shifting their production line to the developing country will get a negative effect on their brand if they import back their cars into the developed country from developing country. However, in this research, the sample is small and all from students, which limits the research result. In addition, this research is focusing on the USA and China, whereas, Germany which has strong influence in China's car market was not noted. In conclusion, although this study provides several interesting findings, because of the limitation, the evidence of the result is not strong enough to persuade.

3.2 Literature on premium car consumer in China

Hu, Wakabayashi, Jiang, and Zhang (2006) state the relationship between self-concept and brand preference. In addition, the relationship between brand personality and brand preference is also discussed in the study. It is said that the self-concept and brand personality have a positive effect on the brand preference in consumer's mind. Moreover, the imagination of self-concept and brand personality has a highly positive effect on brand preference in consumer's mind rather than the existed image of self-concept and brand personality. Therefore, in China, the product such as car has a strong ability to appear the status of the owner, which will stimulate the consumer's imagination while considering purchasing a car. Because of this finding, Hu suggests car makers that try to make a marketing strategy which leads the consumer to feel and permit the brand value.

Also, Hu suggests car makers be better to have a clear target to produce cars which has the relative brand value to the consumer. However, in this study, although the author provides the demographic evidence of the responders, there are no any descriptions of the place for conducting the survey. Moreover, even several proposals are provided, however, there are no any feedbacks from the stakeholders, which means less validation of the output from this research. Therefore, this research explains the relationship among self-concept, brand personality and brand preference. However, the lack of agreement on responders and validation may cause the result inaccurate.

Cho, Jin and Cho (2010) explore the regional differences in consumer behavior in China by conducting a questionnaire from Beijing, Shanghai and Guangzhou to provide the branding strategy for the foreign brand retailers. In this study, cultural openness which means the degree of willingness to accept people, value and things from other cultures was found as the most significant factor in the three big cities. In addition, it is figured out that in China, different cities have different features in consumer behaviors, such as cultural openness, face saving, self-respect value. However, although this study gives three cities as a comparison of regional difference, the second and third-tier cities which will have huge demand in the future were not explained in this study. As a consequence, this study is restricted in the scope of geographic levels.

Zhou, Arnold, Pereira, and Yu (2009) indicate that the importance of understanding decision-making styles in inland and coastal area in China. The finding from this study is in the coastal area in China, the managers should establish a strong brand identity due to more brands conscious and brand loyal are important to the coastal consumers in China. Moreover, more novel, fashionable, recreational and hedonistic

appeals are valued more in coastal consumers' minds than inland consumers' minds. In addition, this study shows that there is no difference between coastal consumers and inland consumers' desire to have high-quality products. In other words, all the Chinese consumers have the preference for the high-quality products. However, this study provides so general ideas that no segments of goods are introduced. Therefore, the accuracy of the result from this study is doubted.

Zhu. C., Zhu. Y., Lu, He, Xia (2012) explains that car ownership has already become a highly desirable thing in young Chinese consumers' mind. Nevertheless, this study indicates that there is a potential problem that if car ownership is widespread in the growing middle class, China will face the problem of road congestion, public health, environment, and energy supply. Therefore, it is important to control the car's market size. In addition, decreasing psychosocial valuation or changing the social norms surrounding car ownership will influence negatively the intention to buy cars and the decision to buy cars as well. However, it is doubted that students will be the largest consuming group for car market in the future or not. Therefore, the consumer characteristics on the car ownership may have different influences from different consumer groups.

Young, Bayly and Lenne (2012) discusses the different preference on in-vehicle information system design among Australian, US and Chinese drivers. The authors find that Chinese group demonstrated greater collectivism, which is influenced by strong social groups and family. That is why Chinese drivers were significantly more oriented on an internal locus of control rather than Australian and US drivers. In addition, compared to the Australian and US drivers, Chinese drivers prefer symbol label most.

Although this study claims the relationship between the traditional Chinese culture and western culture which influence the Chinese driver's preference, the survey participants are just school student. Especially in China, students are seldom seen to drive a car in the campus, which indicates that there might be several misleading in the paper. Moreover, though it is a research on the in-vehicle design, other components in the interior of the car body may affect the preference from drivers as well. In conclusion, in this study, the authors figured out the different preference between Chinese and western drivers in the in-vehicle design. However, because of the lack of other components in the in-vehicle system, the result from this paper should be re-verified.

Zhao (2010) analyzes the consumer behavior in Zhejiang Province's premium car market in China. In this study, the questionnaire was conducted for analyzing the characteristics of the premium car owners in Zhejiang, such as the preference of premium car, the preference of social media, and the preference of brand perception. Moreover, the author gives one example of Audi as suggesting several marketing plans in Zhejiang Province. However, this thesis is too general that there are no any other specific findings on consumer behavior in the premium car market. There are no verification and validation of the questionnaire and proposals. To sum up, it is questioned about the accuracy of the information and result in this study. Moreover, the scope of this study is too wide that the finding from the research seems common sense.

Guo (2006) discusses on the consumers' attitude to the local automobile brand. In this study, the brand attitude is divided into cognitive side and affective side. Moreover, the effects of brand awareness, brand quality and brand personality are demonstrated which have a positive effect on the brand attitude in the purchasing process of cars. In

addition, the country-of-origin will interfere consumers' minds towards the form of brand attitude. For example, even two brands have similar brand awareness in the car market, the brand attitude on local brand and foreign brand have a huge difference. Also, brand personality has the strongest influence on the brand attitude, especially in the case of foreign brands. Although in this study, it shows the relationship between brand attitude and brand awareness, brand quality and brand personality compared with foreign brand and domestic brand, no any proves show the point which can explain the situation. In addition, the design of the questionnaire also limits the result validity that there are only two models of car listed in the research. In conclusion, the output from this research is the lack of persuasiveness.

Han (2006) states the different brand attitude to the automobile brands from China, Germany, America, Korea, France and Japan. This research finds that the stereotype, the cognition of the country's development degree, the identity with the country or region and the apperceive risk to consumers' belief and brand buying intentions influence the consumer behavior in China's car market. In addition, the word mouth of country-of origin, the experience of riding a car and the consumer belief can positively affect the impression on car brand. Additionally, the identity with the country or region also has strongly influenced the consumer behavior that has an important role in the marketing strategy level as well, especially in the case of Japanese car. Moreover, in this study, it is figured out that the marketer should use the marketing communication to build a reliable relationship with customers to decrease the risks. Secondly, Japanese automobile companies are suggested make a new social brand image to transform the previous image, as an example, to help to decrease the air pollution in China. However, in this research,

the author only considers the country-of-origin as an essential effect that neglect the other potential effect such as the design of the car or the function of the car. Therefore, although it seems to be a critical study, the limitation of it is lack of the components in the consumer choice system.

3.3 Originality of this research

By looking through the Table 2, almost all the researches have been made are only considered one or two aspects in the market. Basically, the market consists of demand, supply, and product. Without one of the aspects, the marketing research is not completed, due to the reason that it will be the lack of one information or feedback which may strongly influence the final result of the research. Therefore, one of the originality of this research is combining three aspects to view the problem in a systemic way. In the supply side, the interview will be held to analyze the issues or needs from the related companies. On the demand side, the questionnaire to the consumers will be conducted to analyze what the special demand from consumers. The last of product side is aiming for analyzing the market size of product in a macro way and also analyzing the consumer preference in a micro aspect. All in all, one of the originalities of this research is to include all the aspects of the market in the research.

Another originality of this research is utilizing both quantitative analysis and qualitative analysis. If there were only quantitative analysis without qualitative analysis, the problem definition of the research has a high possibility to be uncompleted. In contrary, if there were only qualitative analysis without quantitative analysis, the result will be difficult to be validated. However, almost all the marketing research related to the

premium product only used either of two analyses which could cause the result uncompleted. Therefore, this research integrated both quantitative and qualitative analysis to make a full view of the problem.

In conclusion, this research is utilized by a systemic thinking for achieving the research goal of proposing the most proper marketing strategy to increase the market share.

Table 2 Summary of the difference between this research and others

	Demand	Supply	Product	Quantitative	Qualitative
Zhang, 2012	●			●	
Frank, 2011	●	●		●	
Ackerman, 2009	●	●		●	
Cho, 2010	●			●	
Zhou, 2009	●			●	
Fetscherin. 2010	●		●	●	
Zhu, 2012	●		●	●	
Young, 2012	●		●	●	
Guo, 2006	●	●		●	
Han, 2006	●			●	
Zhao, 2010	●		●		●
Hu, 2006	●			●	
This research	●	●	●	●	●

4. Research methodology

4.1 Research method design

Three methods are utilized in this research to analyze the research question formulation, the demand forecast of the premium car market in China, and the consumer preference of Chinese consumers in the premium car market. Grounded Theory Approach is aiming of formulating the research question in a qualitative way by collecting the data from different premium brand dealers in different areas in China. Bass Model is utilized to forecast each premium car brand's demand in China and show their market share in China as well. Conjoint Analysis is made in understanding the Chinese consumer preference of premium car and also providing several what-if analyses to employ the marketing strategy in the next stage. By combining the two findings from the result of the Bass Model as a macro aspect and Conjoint Analysis as a micro aspect, the realizable market strategy is discussed to propose the marketing plan to the companies.

In conclusion, the research methodology is designed as qualitative method and quantitative method to find out the core problem with the current situation.

4.2 Qualitative method

4.2.1 The representative qualitative method

There are five famous qualitative methods used worldwide.

1) Narrative research:

Narrative research which is also called as narrative analysis or narrative inquiry has the variety of forms and practices regarding with the different situation (Daiute &

Lightfoot, 2004). The word “narrative” can be referred as a text or context with a specific focus on stories (Polkinghorne, 1995) which can be utilized as both a method and the phenomenon of study (Pinnegar and Daynes, 2006). Narrative research can be used in different fields, such as literature, history, education, and sociology (Chase, 2005). Types of data, such as interview, participant observation, and chatting, can be conducted for narrative research. The output of the narrative research can be considered as a paradigmatic research for a study or a biographical study of recording person’s experience and life.

2) Phenomenology:

Phenomenology was a psychological subject matter founded by Edmund Husserl, who was a philosopher in Germany in early 20th century (Spiegelberg, 1982). In Husserl’s conception, phenomenology has a deep relationship with the systematic reflection of structures of consciousness and the phenomena that appear in acts of consciousness. Therefore, phenomenology is mainly for explaining the real nature of living experience in the research (Moustakas, 1994). Before gathering the data, the phenomenology research should delete all the own conception and opinion towards on the phenomenon. In other words, for comprehending the phenomenon as much as possible, this qualitative method should be started with nothing bias. The ways to gather the data source are interviewing, diary, and records (Moustakas, 1994). The output of phenomenology is expected as the detail description of the core of the phenomenon from the structural and textual descriptions (Marshall & Rossman, 2006).

3) Grounded Theory Approach

Grounded Theory Approach was founded by Glaser & Strauss. By considering the possibility of achieving the reality of the theory, they thought theory should be constructed from the data systematically (Strauss & Corbin, 1990). Therefore, the objective of this method is to develop a theory based on the existed data. There are many ways to gather the data. For example, observation, interview, recording, memo, news can be the way to do the gathering.

4) Ethnography

Ethnography is found in the late of the 19th century for the purpose of understanding the cultural phenomenon in the society. In addition, researchers are using this method not only in the field of the exploration of different cultures, but also in the field of understanding the special organization, such as hospital and facility, and different nation's groups as well (Harris, 1968). The ways to gather data are interviewing, field work (Wolcott, 1999), participant observation. In addition, video, memo, dairy, poem, and other important cultural artworks can also be the data source in Ethnography. To sum up, the outcome from Ethnography can be the description detail of culture essence in one phenomenon.

5) Case study:

Case study is a descriptive analysis, including individual, several individuals, a group, or an activity (Creswell, 2007). Although some scholars do not permit that case study is a methodology (Stake, 2005), it is still thought worldwide that case study is a methodology, due to the reason that it involves the study of an issue explored through many cases within a context as a qualitative research (Creswell, 2007). Data can be

gathered from documents, records, interviews, and observations. The output of the case study is expected as a meaning of the case which is coming from many cases, for example, instrumental case and intrinsic case similar with the lesson learned (Lincoln and Guba, 1985).

To sum up, the five popular qualitative research methods are concluded as Table 3. In addition, in this research, the Grounded Theory Approach will be selected as the qualitative research method, because in China's premium car market, Japanese premium car brands are not only facing one problem, but are suffering other management aspects, such as localization of the production line, marketing strategy, and technology management. Utilizing a Grounded Theory Approach can deliver a clear theory of the problem, and get known of the core problem or core perspective in such a complicated situation in the current stage.

Table 3 Summary of Qualitative Method

	Focus	Data Collection	Output
Narrative Research	Exploring the life of an individual	Interview and documents	Developing a narrative about the stories of an individual's life
Phenomenology	Understanding the essence of the experience	Interviews, documents, and observations	Describing the essence of the experience
Grounded Theory	Developing a theory grounded in data from the field	Interviews	Generating a theory illustrated in a figure
Ethnography	Describing and interpreting a culture sharing group	Interview, and observations	Describing how a culture-sharing group works
Case Study	Developing an in-depth description and analysis of a case or multiple cases	Interviews, observations, documents and artifacts	Developing a detailed analysis of one or more cases

Therefore, by considering the issue in China's premium car market to Japanese automobile manufacturers, this research will select Grounded Theory Approach to analyze the situation qualitatively by building a theory.

4.2.2 Grounded Theory Approach

Grounded Theory Approach, which was developed by two sociologists, Barney Glaser and Anselm Strauss, is a qualitative research method aiming of developing a systematic grounded theory for a phenomenon. The research output would be a theoretical formulation of investigating the reality, rather than a quantitative analysis. This theoretical formulation is called transactional system that explains how each category reacts with each other. Thus, making such a systematic diagram by visualizing the action or interaction with each other, it is easier to find the new insights into a phenomenon which could be the core problem probably. Several features of Grounded Theory Approach can be figured out (Saiki-Craighill, 2008). First, all the results are provisional, which means there is no completed theory at all. Second, data need to be gathered for several times for verifying the system several times. Third, theory sampling is another feature that the property and dimension can be compared in the transaction system. Last, property and dimension are focused on Grounded Theory Approach that if the property and dimension can be well defined, it is easy for the research gets the whole flow of phenomena. In addition, although this method is used in nursing and medical care field widely for finding out the insights between the patients or patients' relatives and doctors or nurse in a psychological view, because of the systematic thoughts dealing with a complicated phenomenon, it can also be used in business field, due to business system is also full of many factors. Therefore, by using Grounded Theory Approach in the

business system, it is expected that the core problem of a phenomenon can be defined clearly.

In conclusion, Grounded Theory Approach can be used in making a structure between each player in the business market. Moreover, it is the best method to explore the core problem in existing condition. Therefore, in this research, Grounded Theory Approach is conducted to take a first look at the problems and to decide the core problem with the current situation.

4.2.3 Procedure of analyzing Grounded Theory Approach

Based on the research process mentioned by (Strauss & Corbin, 1990), the analyzing process of Grounded Theory Approach can be designed as Figure 12 shown below.

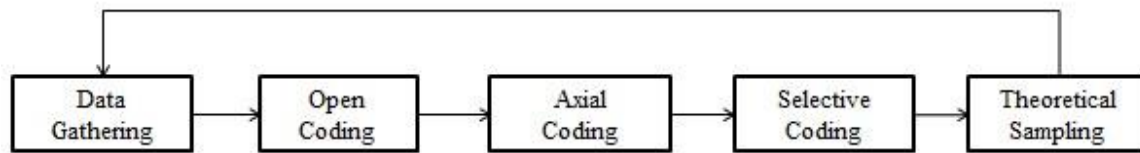


Figure 12 Process of Conducting Grounded Theory Approach

Generally, the procedure of analyzing the data is divided into three stages. First, the data should be gathered from the interview. After receiving the data, it will enter the analysis stage of coding. Three coding will be held on the analyzing stage: open coding, axial coding and selective coding. Open coding is regarded as the most important part in the whole Grounded Theory Approach, due to the reason that during this process, the data will be broken down into pieces, examined into property, compared by the

dimension, conceptualized into the label, and categorized in the end. That is why opening coding is so important that it controls the key of the whole Grounded Theory Approach . After finishing categorizing the data, axial coding will be conducted, in which the categories will be made connection between each other. Moreover, in axial coding, the paradigm model will be decided which involves condition, action/interaction, and consequences, which the transactional system will be conducted in this coding part as well. After this, selective coding will be done in selecting the core category in the transactional system and validating the relationship by checking each property and dimensions, where the core category is the central phenomenon around other categories. By finishing the selective coding, theoretical sampling will be made for proving the theoretical relevance to the evolving theory which aims of maximizing the opportunities for verifying the story line in transactional system. Therefore, it is common that researchers do interview again to verify the model as much as possible.

4.2.4 Procedure of Grounded Theory Approach in this research

The procedure of Grounded Theory Approach in this research is conducted as Figure 13 shown below. First, the interview data which has been recorded as a paragraph should be broken down into pieces. Each piece of data should be examined by the property with dimension. Again, by considering the property and dimension, one piece of data will be named by a label. Second, these labels will be grouped into each category. Third, each category will be checked again by looking at the properties and dimensions of each label based on the data from the interview. Fourth, for building the transactional system, the categories will be carefully checked on the logic explanation of the

relationships. Last, the transactional system will be built, and each category will be explained as a story line. However, in the normal procedure of Grounded Theory Approach, the theoretical sampling will be conducted after one interview's result. In this research, because of the time limitation, the four interviews were taken in the same period. Also, in theoretical sampling, the theory should be saturated. Nevertheless, because Grounded Theory Approach's output can be done provisionally, the phenomenon will be structured by the main categories. In addition, only the interview result has been permitted to disclose from the interviewers, however, the data will be not disclosed in the thesis.

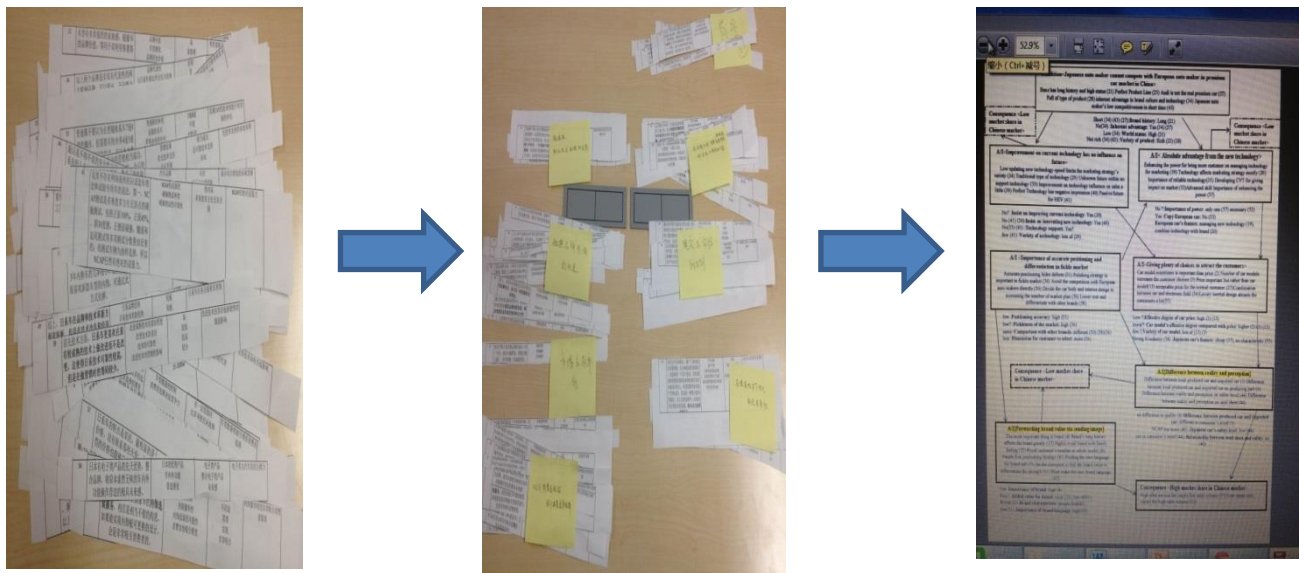


Figure 13 Process of Conducting Grounded Theory Approach in This Research

Four interviews were held with the marketers of different brand dealers in China. In addition, data were gathered by chatting with marketers on the Internet and sending the

questionnaire to them. The result of the transactional system is shown as a story line below.

Condition<Auto makers have less congenital advantages than the competitors>
 Benz has long history and high status (21) Perfect Product Line (23) Audi is not the real premium car (27)
 Full of type of product (28) inherent advantage in brand culture and technology (34) Japanese auto

Short (34) (43) (27):**Brand history:** Long (21)
 No(34) :**Inherent advantage:** Yes (34) (27)
 Low (34) :**World status:** High (21)
 Not rich (34) (43) :**Variety of product:** Rich (23) (28)
 Japan (34)(43):**Brand Nationality:** Germany(21)(28)

A/I<Improvement on technology>

Low updating new technology speed limits the marketing strategy's variety (24) Traditional type of technology (29) Unknown future within no support technology (33) Improvement on technology influence on sales a little (39) Perfect Technology has negative impression (40) Passive future

Yes (39):**Insist on improving current technology:** No?
 No (41) (24):**Insist on innovating new technology:** Yes (40)
 No(33) (41):**Technology support:** Yes?
 few (41):**Variety of technology:** lots of (29)

A/I <Creating new technology as absolute advantage>

Enhancing the power for bring more customer on managing technology for marketing (19) Technology affects marketing strategy mostly (20) Importance of reliable technology(35) Developing CVT for giving impact on market (53)Advanced skill Importance of enhancing the power (57)

No ?:**Importance of power:** only one (57) necessary (52)
 Yes? :**Copy European car:** No (53)
 No feature? :**European car's feature:** managing new technology (19), combine technology with brand (20)

A/I <Make effort for accurate positioning and differentiation in fickle market>

Accurate positioning hides defects (31) Polishing strategy is important in fickle market (36) Avoid the competition with European auto makers directly (50) Divide the car body and interior design to increasing the number of market plan (56) Lower cost and differentiate with other brands (58)

low ?:**Positioning accuracy:** high (31)
 high (36):**Fickleness of the market:** low?
 same? :**Comparison with other brands:** different (50) (58)(36)
 less? :**Dimension for customer to select:** more (56)

A/I <Giving plenty of choices to attract the customers>

Car model sometimes is important than price (2) Number of car models increases the customer choices (3) Price important but rather than car model(13) acceptable price for the normal customer (37)Combination between car and electronic field (54)Luxury inertial design attracts the consumers a lot(55)

Low ?:**Effective degree of car price:** high (2) (13)
 lower?: **Car model's effective degree compared with price:** higher (2) (3) (13)
 few ?:**Variety of car model:** lots of (13) (3)
 cheap (37), no characteristic (55) :**Japanese car's feature:** Strong E-industry (54)

A/I<< Misunderstanding the reality by mistaken perception>>

Difference between local produced car and imported car (1) Difference between local produced car and imported car on producing part (6) Difference between reality and perception on safety level (44) Difference between reality and perception on technology (46)

no difference in quality (6):**Difference between produced car and imported car in perception:** different in consumer's mind (1)
 NCAP top score (46) :**Perception of Japanese car's safety level:** low (44)
 no (46) :**Relationship between steel sheet and safety:** yes in consumer's mind (44)

Consequence <Low market share in Chinese market>

A/I<Forwarding brand value by sending image>

The most important thing is brand (4) Brand's long history affects the brand greatly (17) Highly royal brand with family feeling (22) Royal customer's number in whole world (26) People first positioning strategy (42) Finding the own language for brand self (51) let the consumer to feel the brand value to differentiate the strength (61) Must make the own brand language

Low? :**Importance of brand:** high (4)
 Few? :**Added value for brand:** royal (22), lots of(61) people first(42):**Brand characteristic:** Royal(22)
 low(51) :**Importance of brand language:** high(62)

Consequence <High market share in Chinese market>

High after service fee causes low sales volume (25)Low repair cost causes the high sales volume (32)

By viewing the transactional system as one story line, <Auto makers have less congenital advantages than competitors> is listed in the beginning part as the condition category. If the brand history is long enough, and various products are provided, the storyline will be switched to <Creating new technology as absolute advantages>; otherwise, the condition category will fall into <Improvement on technology>.

<Creating new technology as absolute advantages> shows how important innovation is in a competitive market. If engine power is enhanced during technology management, and without copying models from other brands, the storyline will enter <Offering plenty of choices to attract customers>. Otherwise, it may go to <Improvement on current technology has no influence on future> without data approved.

<Improvement on technology> explains how the slow technological upgrading constrains the corporation's development. If current technology is being improved continuously without paying attention on innovating the new technology, there are no any other technology supports and few technologies can be used. Thus, the storyline will change into <Forwarding brand value via sending image>. However, if it is not, the storyline will be into <Knowing the importance accurate positioning and differentiation in fickle market>.

<Giving plenty of choices to attract the consumers> shows the influence of car models variety to consumers is important in current Chinese premium car market. In the storyline if the car model's effective degree is higher than the price, lots of car models for consumers to choose, but the image of the feature is cheap and no characteristic, it will go

to the category of <<Misunderstanding the reality by the perception>>. Otherwise, it may switch into < Make effort for accurate positioning and differentiation in fickle market >.

<Make effort for accurate positioning and differentiation in fickle market> shows it is necessary to make the unique brand language in current premium car market in China. If the positioning accuracy of brand is high by differentiating with other brands, the storyline will be into <Forwarding brand value by sending image>. Otherwise, it will have high possibility to go to the consequence <Low market share in Chinese market> in the end.

<Forwarding brand value by sending image> illustrates the importance for sending the brand image to the consumers. If the brand is highly focused and has characteristic on royal image with highly important brand language, it will enter to the consequence <High market share in Chinese market>. Otherwise, it will be into the consequence <Low market share in Chinese market>.

<<Misunderstanding the reality by the mistaken perception >>shows the misunderstanding in the consumer perception towards Japanese car. If the Japanese car's safety level is low, and consumers do not know the effect of steel sheet on safety, the storyline will be ended in consequence <Low market share in Chinese market>. Otherwise, it will end in the consequence <High market share in Chinese market>. Because all the data are verified in the category, <<Misunderstanding the reality by the mistaken perception >> becomes the core category in the whole transactional system.

In conclusion, although the congenital condition such as brand history is weak for Japanese premium cars, their high quality still attracts a large number of consumers

worldwide. However, in China, customers are ignorant about safety level and mistakenly think Japanese manufacturers only use outdated technology for cars sold in Chinese market, Japanese premium auto manufacturers are facing low market share, compared with German counterparts. Considering the result from ground theory approach and the highly different sales performance of different nation's brands in China, the research question is:

R1: During the process of buy premium car in China, is the image of the origin country the top priority for consumers?

4.3 Quantitative method

4.3.1 Demand forecast

As a scientific discipline, forecast has made profound progress in the past several years, and plays a key role in the corporate decision-making on inventory management, strategic management, etc. (Fotios et al., 2014). Makridakis and Hibon (2000) also stated, “Predictions remain the foundation of all science”, indicating the importance of forecast for corporations. Also in this marketing research, it is necessary to understand the future sales and market share of Japanese premium cars, for showing that the server situation would be continued in the future if no other actions happened. Besides, Bass model is one of the methods to assume the future demand in a macro way.

4.3.1.1 Bass model

By definition, Bass diffusion model, or Bass model, is used to forecast demand for new products in market research, especially the forecast of sales of new products and technologies. It explains how current adopters in the market and potential adopters of a new product interact with each other (Bass, 1969). A large number of researchers and scholars have made extensive effort to optimize the model equation and explore applications in other fields such as education, medicine and agriculture, as well as marketing analysis (Nigel, 2006). A forecast of the sales of Japanese premium cars can help auto manufacturers understand the importance of the market and save time in making strategies. In this simulation, the sales of Lexus are taken to represent Japanese premium car sales, because Lexus’s sales in China outperform the other two major Japanese premium car brands.

The model equation is shown as below. $n(t)$ is the rate of change of the installed base fraction, which is the sale of product in t period. M is the ultimate market potential, which shows the total potential number as a saturated condition in the market. $N(t)$ is the cumulative number of customers who have already adopted. ρ_p is the coefficient of innovation to the current period's sales, which is resulted by the influence from external environment, such as the effects of advertisement. ρ_q is the coefficient of imitation to the current period's sales, which is resulted by the influence from internal environment, such as the effects of word-of-mouth.

$$n(t) = \rho_p \{M - N(t - 1)\} + \rho_q \frac{N(t-1)}{M} \cdot \{M - N(t - 1)\} \quad (1)$$

$$N(t) = N(t - 1) + n(t) \quad (2)$$

M : the ultimate market potential,

$n(t)$: sales at time t

$N(t)$:the cumulative number of customers who have already adopted

ρ_p : the coefficient of innovation (external influence)

ρ_q : the coefficient of imitation (internal influence)

However, this model equation is only for an already saturated market. China's premium car market demand is still developing. Therefore, it is necessary to add a market inflow ratio that helps to show the dynamic change in the market size (Kubota et al., 2007).

$$\alpha = 1 + \beta t \quad (3)$$

β : the market inflow ratio

Therefore, the extension model equation will be changed to

$$n(t) = \rho_p \{\alpha M - N(t - 1)\} + \rho_q \frac{N(t-1)}{\alpha M} \cdot \{\alpha M - N(t - 1)\} \quad (4)$$

by considering the current situation in China's premium car market.

4.3.1.2 Estimate of parameter for Lexus, Benz and Audi

Three important parameters should be determined in this model equation: the ultimate market potential M , the coefficient of innovation ρ_p and the coefficient of imitation ρ_q .

- 1) The ultimate market potential M is the potential market size of China's premium car. Since the share of the premium car market in the passenger car market has not changed (Inoue, 2003), and the potential market size of passenger cars has been predicted by the previous research (Du, 2011), the ultimate market potential M can be determined through calculation.
- 2) The coefficient of innovation ρ_p and the coefficient of imitation ρ_q are determined by using generalized least squares method with historical data from 2005 to 2009. The coefficients are shown in the Table 4.

Table 4 Coefficients of Each Brand in China’s Premium Car Market

	ρ_p	ρ_q
Audi	0.004631	0.247645
Benz	0.011038	0.102989
Lexus	0.003437	0.046296

Based on the estimation of the two coefficients, the coefficients of imitation from all the three brands are larger than the coefficients of innovation. Moreover, in the case of the coefficients of imitation, Audi has the highest value. Nevertheless, in the case of the coefficients of innovation, Benz gains the highest value. According to the result, it is easily figured out that Audi has its strong influence on the effect of imitation, such as the word-of-mouth. On the other side, Benz has its strength on the innovation of technology, which influences the effect of innovation in the model. In contrary, Lexus has not been perceived as much higher level as it should be. Both of the two coefficients are lower than the two Germany brands. Indeed, Lexus does not show its huge weakness on the innovation effect. Instead of that, in the aspect of imitation effect, Lexus is way behind compared with other two premium brands, which explain that Lexus does not obtain the imitation effect by the marketing activities. Therefore, one thing can be indicated that in China’s premium car market, the effect of imitation is larger than the effect of innovation, which can be implied that during the marketing planning, the company would better to select the strategy on the word-of-mouth rather than the advertisement.

a) Demand forecast of each brand

According to Figure 14, it is shown that the demand forecasts of Audi, Benz and Lexus from 2014 to 2020. All of these three brands' demands have been increased. Especially, in the case of Audi, it increases extremely quickly that in 2014 the demand of Audi is assumed as 590,000 units for one year. In 2020, the demand of Audi is assumed to reach nearly 1,600 thousands units for one year. However, Benz and Lexus do not show such an extreme growth in the demand aspect. In 2020, the demand of Lexus will reach nearly 200,000 thousand units, which is only one-eighth of the demand of Audi. In conclusion, due to the increasing market size in China, the demands of Audi, Benz, and Lexus are becoming larger. Nevertheless, the growth rate of each brand has huge difference that Audi grows extremely faster than Benz and Lexus.

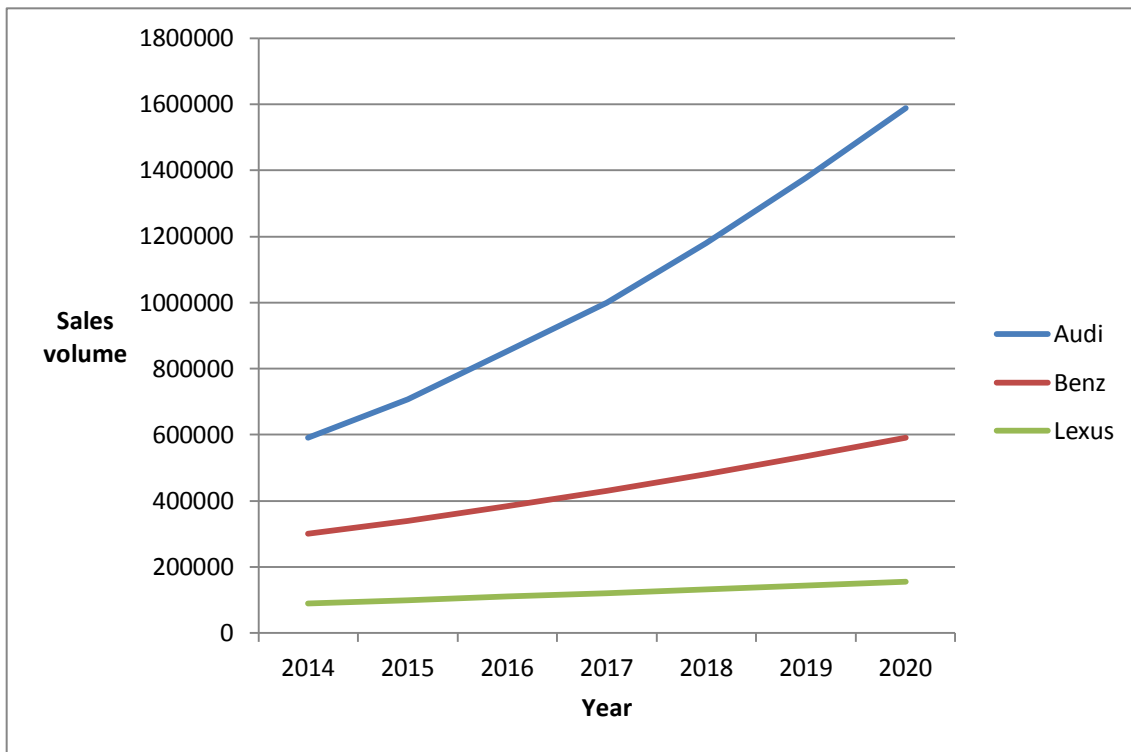


Figure 14 Sales Forecast of Each Brand in China's Premium Car Market, units

In addition, by looking through the market share of each brand, Lexus is losing its competitiveness gradually. Based on the result from Figure 15, Audi is obtaining the market share from 2014 to 2020, while Benz is continuously keeping the market share around 20 percent. In the other side, Lexus is losing its competitiveness that its market share is gradually declining year by year. In conclusion, due to the demand forecast, until 2020, Lexus cannot increase its market share in China's premium car market, if it would not change any strategies.

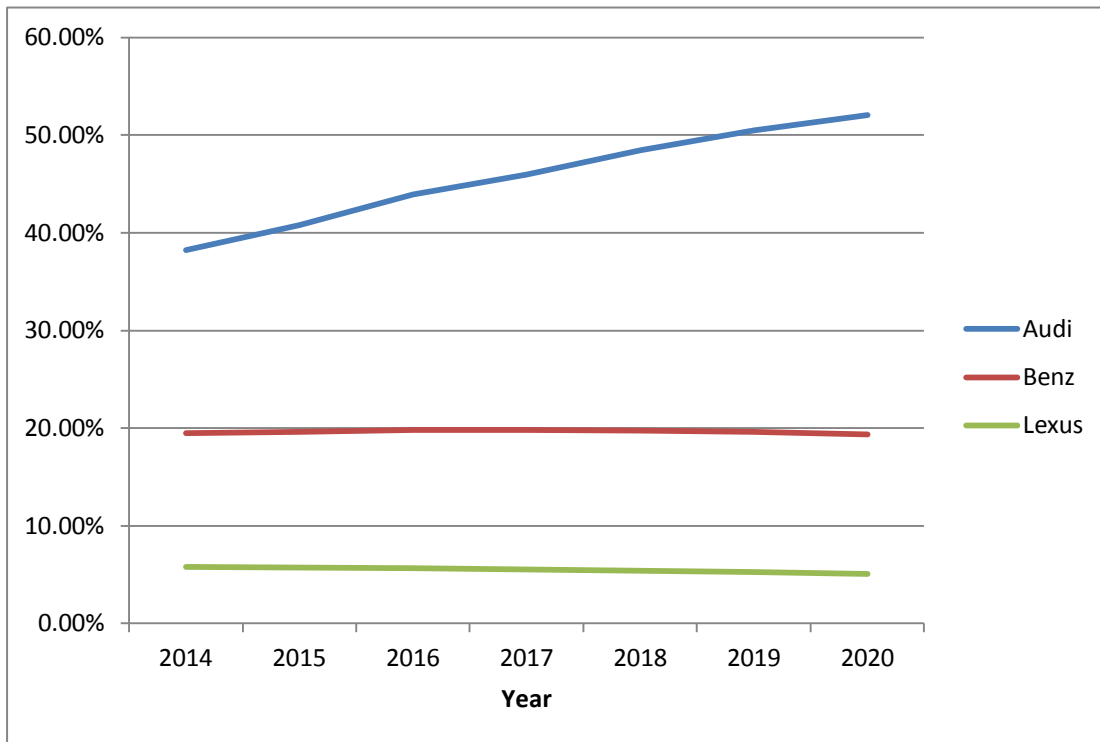


Figure 15 Market Share Forecast of Each Brand in China's Premium Car Market

All in all, due to the fact that China's premium car market is growing, the demand of these brands is growing as well. Meanwhile, Audi performs most well that in 2020, the

demand will reach at above 1.5 million units. However, Lexus will only increase to 200 thousand. Moreover, in the aspect of market share, Audi is continuously obtaining the market share. In contrary, Lexus does not change its market share in China, indeed slightly declines its market share.

In conclusion, the Bass model proves that in China's premium car market, the imitation effect is much more effective than the innovation effect. Furthermore, Audi will get much more market share rather than Lexus until 2020.

4.3.2 Consumer Preference

4.3.2.1 The purpose of analyzing the consumer preference

As the previous researches explained in the literature review before, most of them is trying to prove one cultural factor, such as mianzi, will affect the consumer behavior during the process of purchasing goods (Hu, 2006). However, those researches only involve individual factor, so that they cannot prove the real purchase which involves so many features and characteristics. Therefore, it is necessary to arrange lots of characteristics of products to find out that during the trade-off thinking process, which characteristic or feature the consumer will choose in the end. Moreover, when researchers are giving a survey to find out the importance of product or service, it is difficult to evaluate the importance from an objective view. In addition, it is difficult to obtain an accurate answer when the research asks a question, such as the expected price, because most of the answers will be as much cheaper as possible. Thus, it is hard to get which price will be accepted if the character is in which level. To sum up, it is impossible to answer this question without understanding the consumer preference.

Another reason why consumer preference in China's premium car market should be noticed is the potential market size. China's premium car market is enlarging nowadays as a new boom market so that understanding the consumer preference will advance the efficiency of strategic planning as well.

Therefore, in this research, Conjoint Analysis will be used to understand the consumer preference in China's premium car market by analyzing many attributes of the car.

4.3.2.2 Conjoint Analysis

Conjoint Analysis was firstly, developed by Luce and Tukey (1964) and the he utilization of conjoint analysis in marketing perspective was developed by Green and Wind (1973). By using Conjoint Analysis, the preference score of product or service which is called the utility score can be assumed. Moreover, by summing up all the utility scores of each attribute of a product or service, the total preference score of one individual product can be estimated. Thus, attribute which can be price, function, or design can be evaluated by Conjoint Analysis. In addition, those utility scores can be also performed as n importance of an attribute which indicates the value of each attribute to consumers during the decision making of purchase. Additionally, importance level of each attribute Conjoint analysis can also be used in the new product development process by estimating consumer preference towards on the product and combining different levels of attributes based on utility scores.

In conclusion, the objective of Conjoint Analysis is to understand consumer preference on the product or service by calculating the utility score of each level and importance of each attribute of the product or service (Green & Wind, 1972). The utility score of each attribute's level will determine the effectiveness to consumers during decision-making. Utility scores can be calculated by the following equation (Markus J. Schmidt, 2002),

$$U_{ij} = \sum_{j=1}^n a_{ij}x_{ij} \quad (5)$$

U_{ij} : Overall utility of alternative j for individual i

a_{ij} : A real valued function defining the utility on the j th attribute for the i th individual

x_{ij} : The level on attribute j characterizing the i th alternative

The value of importance of each attribute can be calculated after getting the utility score.

I_i is the absolute value of the importance of i th alternative which is calculated as the difference between highest utility score and the lowest utility score for each attribute.

Therefore, as the equation shown below, $\max_{1 \leq j \leq k}(a_{ij})$ is the highest utility score of i th alternative's attribute, and $\min_{1 \leq j \leq k}(a_{ij})$ is the lowest utility score of i th alternative's attribute.

$$I_i = \{\max_{1 \leq j \leq k}(a_{ij}) - \min_{1 \leq j \leq k}(a_{ij})\} \quad (6)$$

Moreover, the relative importance of each attribute can be characterized in the following equation.

$$W_i = I_i / \sum_{i=1}^m I_i \quad (6)$$

In addition, in the case of the new product, the consumer preference can be estimated by the combination of the new attribute and existed attribute. In the case of the existed product, it is same that the consumer preference can be estimated by the combination of different existed attribute as well by calculating the utility score. The merit of combining different attributes is to estimate lots of products or services by quantizing few attributes. Additionally, by combining the attributes with different alternative level, the concept of product can be constructed, and the market share can be simulated by the individual utility score of alternative of attributes.

In conclusion, by utilizing Conjoint Analysis, the value of premium car can be better assessed through the competitive market simulations with the importance of each attribute and the utility score of different level of attribute.

4.3.2.3 The design of attribute and level

Based on Table 5, the simulated premium cars are assigned with six attributes: brand nationality, car type, price, symbol label, energy type and safety type. Safety type has two levels, and other attributes each have four levels. Moreover, the level of each attribute is explained in the following table.

Table 5 Design of Conjoint Analysis in This Research

Attribute	Level 1	Level 2	Level 3	Level 4
Brand Nationality	Germany	Japan	America	China
Car Type	Conventional	SUV	Sports	Mini
Price (10 thousands RMB)	25-35	35-45	45-55	55-65
Symbol Label	Success	Royalty	Power	Fashion
Energy Type	Gasoline	Diesel	Hybrid	Electric
Safety Type	Active	Passive		

1) Brand Nationality

Brand Nationality means the origin country of each premium brand in China, which is the main attribute is for proving the research question. Data (Autohome, 2013) shows that brands with top 3 sales are all German, which indicates that Chinese consumers may choose premium cars with a preference on brand nationality. Thus, in this research, four brand nationalities which are Japanese premium car brand, German

premium car brand, American premium car brand, and Domestic (Chinese) premium car brand are considered as the four levels of brand nationality attribute.

2) Car Type

Car Type means the type of premium car sold in China. It determines the size and exterior of the car, since Chinese consumers consider exterior as one of the important factors (Sha, 2013). In this Conjoint Analysis, car type is defined into four types regarding with the existed car type in the premium car market currently, which are conventional car, SUV (Sports Utility Vehicle) car, Sports car, and Mini car. The reason why mini car is involved in this research is because of the consideration on the premium brands, such as MINI and Beatles.

3) Price

Price means the price of the premium car, which is always a key factor when people are considering purchasing some goods as important factors (Shaw, 2013). Thus, in Conjoint Analysis, the price is divided into four levels of price range that are the range of 250 thousand RMB to 350 thousand RMB, the range of 350 thousand RMB to 450 thousand RMB, the range of 450 thousand of RMB to 550 thousand RMB, and the range of 550 thousand RMB to 650 thousand RMB.

4) Symbol Label

Symbol Label means when dealers promote cars in China, they always put several symbol labels to emphasize social image and function of the car, such as successful version. Therefore, the Chinese car dealer is using the label image to promote car as one

of the marketing strategies. In Conjoint Analysis, the symbol label has four different aspects that are success, royalty, power and fashion.

5) Energy Type

Energy Type means type of energy engine the car uses. With serious environmental issues, China may be able to reduce air pollution from vehicle exhaust by using clean energy vehicles such as Hybrid ones. Therefore, in Conjoint Analysis, energy type is aiming of how clean energy vehicle is preferred in China's car market and what the relative importance of clean energy vehicle in China compared with other energy sources. In addition, the level of energy attribute is divided as gasoline, diesel, hybrid and electricity.

6) Safety Type

Safety Type contains active safety and passive safety. Active safety avoids accident. Passive safety helps passenger to survive in an accident. In addition, nowadays, active safety is much paid attention to, because of the unbelievable progress on the information technology part. Therefore, this attribute is aiming for testing has the safety perception from Chinese consumer been updated or not.

In conclusion, although Conjoint Analysis is mainly for evaluating the competitiveness of the brand, this questionnaire design is aimed for the assessing how important the brand nationality is during the consuming process of premium car in China by creating the trade-off system.

4.3.2.4 Type of Conjoint Analysis

Ranking and Rating are the two types of Conjoint Analysis used widely. However, in this research, by considering that it is difficult to give each cart a score clearly, the method of ranking the cart will be selected. Furthermore, trade-off and full profile are the methods to evaluate the simulated product. Trade-off can be used when there are only two levels in the attribute, both in the ranking and rating type of Conjoint Analysis. On other sides, full profile can be used when there are three or over three levels in the attributes. Hence, due to the design of the attribute and level introduced in this research, the full profile method is selected.

Also, in the case of designing chart for Conjoint Analysis, Orthogonal Experimental Method will be used for reducing the number of carts and simplifying the answers for responds. Therefore, by using orthogonal experimental L12 Method, the number of simulated carts for 12 based on the following figure.

4.3.2.5 The implementation of questionnaire

The questionnaire for Conjoint Analysis is held in three cities, Shanghai, Hangzhou, and Jiaxing. The reason why these three cities are selected is because these cities are coming from different tiers of city in China. Shanghai is one of the tier 1 cities. Hangzhou is one of tier 2 cities. Jiaxing is one of tier 3 cities. Moreover, these three cities are selected, because they are the eastern cities of China, where has the highest motor vehicles per 1000 people (China Auto Market Almanac, 2013). Therefore, understanding the consumer preference in this developed area in China can probably understand the future consumer preference on premium car in China. The questionnaire is conducted by

two ways, internet online survey software and the local interview. This is due to that internet is still mainly used by the younger generation in China so that the result of questionnaire might be a lack of the response from senior generation. Therefore, the internet questionnaire is made for the young generation, while the local interview is made for the senior generation in these three cities.

4.3.2.6 Data collection

This questionnaire is distributed in August, 2013 by both web survey software Qualtrics and face-to-face interview. The number completed response of the questionnaire is 110, and number of the valid response is 85. Since there are 12 alternatives for the responder to answer and without any incentives, it takes a long time, which causes several responders give up the questionnaire. Besides, even the answer seems to be finished, but with low credibility. As an illustration, some of the answers take really short, some of the answers do not change the rank either. Thereof, by considering the credibility of the result from Conjoint Analysis, the questionnaire responses are checked carefully for a high accuracy level of analysis result.

4.3.2.7 Description on responders

According to the following figure 16, the sex difference of the responders is not large that indicates the result of Conjoint Analysis is not influenced by the bias from the sex difference.

Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	43	50.6	50.6	50.6
	Female	42	49.4	49.4	100.0
	Total	85	100.0	100.0	

Figure 16 Sex Distribution of Responders

The following figure 17 shows the age distribution of the responder. The group of age 20-30 years old takes the majority of the whole responders. This is due to the reason that most of them are using the internet to answer the questionnaire, whose way is much more efficient than the face-to-face interview.

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 20 years old	4	4.7	4.7	4.7
	20-30 years old	39	45.9	45.9	50.6
	30-40 years old	12	14.1	14.1	64.7
	40-50 years old	17	20.0	20.0	84.7
	Above 50 years olde	13	15.3	15.3	100.0
	Total	85	100.0	100.0	

Figure 17 Age Distribution of Responders

The figure 18 explains the distribution of education level among the responders. Nearly 90 percent of the responders have the bachelor degree at least. Besides, 10 percent of the responders are under bachelor degree in which several of them are under 20 years old and several of them are over 50 years old.

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school	9	10.6	10.6	10.6
	Bachelor	68	80.0	80.0	90.6
	Master	8	9.4	9.4	100.0
	Total	85	100.0	100.0	

Figure 18 Education Level Distribution of Responders

Figure 19 shows the distribution of salary among the responders. 60 percent of the responders only have 50 thousand RMB as annual income that is 800 thousand JPY by transferring the exchange rate. This shows that still the majority of the responders in this survey is not from the wealthy group in China.

Salary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 50,000 RMB	51	60.0	60.0	60.0
	50,000-100,000 RMB	19	22.4	22.4	82.4
	100,000-150,000 RMB	10	11.8	11.8	94.1
	150,000-200,000 RMB	1	1.2	1.2	95.3
	Above 200,000 RMB	4	4.7	4.7	100.0
Total		85	100.0	100.0	

Figure 19 Salary Distribution of Responders

In contrast, according to figure 20, even though the responders are not from the wealthy group, most of them have the driving license in China. 70 percent of the responders have the driving license, while only 30 percent of the responders do not have the driving license.

Licence

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Have	60	70.6	70.6	70.6
Not have	25	29.4	29.4	100.0
Total	85	100.0	100.0	

Figure 20 License Ownership Distribution of Responders

Based on Figure 21, the car ownership among the responders is still low that only 40 percent of them have the car. Contrarily, over 60 percent of the responders do not have the car, which indicates that it is valuable to conduct the questionnaire on them that will help to analyze the potential consumer behavior in this research.

Car

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Have	33	38.8	38.8	38.8
Not have	52	61.2	61.2	100.0
Total	85	100.0	100.0	

Figure 21 Car Ownership Distribution of Responders

Figure 22 shows the desire of owning a premium car among the responders. Almost 80% of the responders have a desire to drive a premium car. Additionally, only around 20 percent of the responders do not want to own a premium car in their lives.

Desire

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Have	66	77.6	77.6	77.6
Not have	19	22.4	22.4	100.0
Total	85	100.0	100.0	

Figure 22 Desire for Owning Premium Car of Responders

4.3.3.8 Conjoint Analysis result

The output of Conjoint Analysis is the utility score of each level of all attributes which are brand nationality, car type, price, symbol type, energy type, and safety type. Also, the market share of each attribute or individual products can be estimated as well.

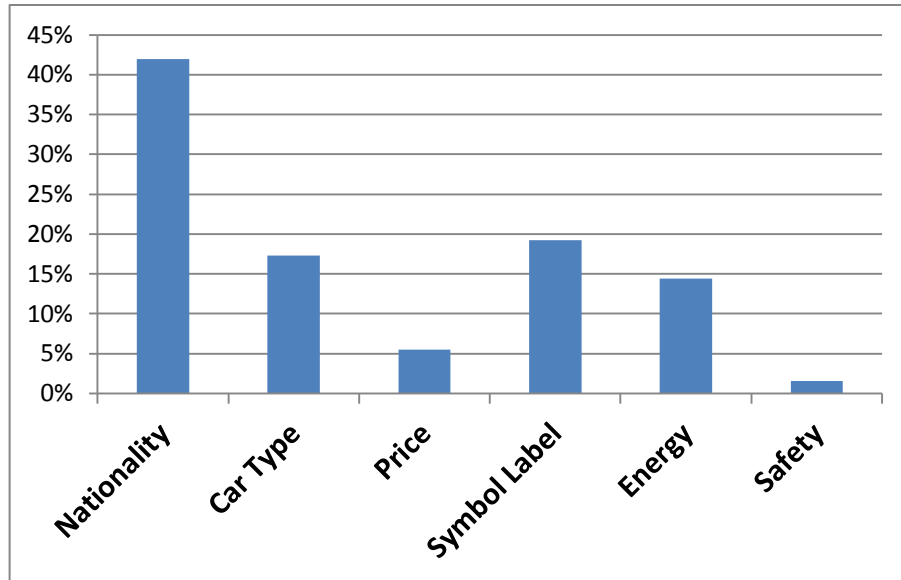


Figure 23 Importance of Each Attribute

Based on the results shown in the Table 6 and Figure 23 the consumer preference for the premium cars has been clearly identified.

Table 6 Utility Score of Each Level

Attribute	Level	Utility Score
	Germany	1.870588

Brand Nationality	Japan	-0.11373
	America	0
	China	-2.46275
Car Type	Conventional	0.890196
	SUV	1.788235
	Sports	0
	Mini	0.019608
Price (10,000 RMB)	25-35	0.564706
	35-45	0.011765
	45-55	0
	55-65	0.015686
Symbol Label	Success	1.6
	Royalty	1.686275
	Power	0
	Fashion	-0.2902
Energy Type	Gasoline	1.207843
	Diesel	0.705882
	Hybrid	0
	Electric	-2.28235
Safety Type	Active	-0.08039
	Passive	0.08039

As the result shows, brand nationality gets over 40% of the importance of the attribute, ranking the highest among all six attributes in the simulated premium car. This means, among the six attributes, brand nationality affects consumer preference the most while the Chinese customers are considering purchasing a premium car. Additionally, compared with the four levels in brand nationality, the highest utility score comes from Germany, which shows that if all conditions are the same for different brand nationalities, Chinese consumer may prefer German ones. Chinese domestic premium car brands have the lowest score, and Japanese brands rank the 3rd place, following Germany and U.S.

The result of Car Type shows that the SUV has the highest utility scores, suggesting that it is the most preferable vehicle model among the four car types. The other three car types are close in utility score.

Price is always one of the most important factors that drive people's consumer behavior. The higher the price of a premium car charges, the higher the value it has. However, the result does not comply with common sense. The utility score of each level is rather close to each other. Moreover, the importance level of the attribute is only 5%, ranking the fifth among the six attributes. It suggests that Chinese consumers show less preference on expensive premium cars.

Symbol Label is proved to be the second most important attribute, significantly influencing consumer behavior in purchasing a premium car in China. Success and royalty have similar utility scores higher than that of power and fashion. In conclusion, symbol label shows its essentiality to the consumer preference on premium cars in China.

The result of Energy Type indicates that Chinese customers prefer gasoline than clean energy. Clean energy vehicles are still not popular yet in China.

The result of Safety Type shows that there is no great difference between the consumer preferences towards these two levels of safety. Chinese customers do not have a favorable safety type based on their driving condition.

4.3.2.9 Simulation of market share

Utility scores were used to simulate market share. Three models: Maximum Utility Model, Bradley-Terry-Luce Model, and Logit Model, can be applied in the market share simulation (James & Robert, 1979). This simulation aims to verify different market shares of Japanese premium cars and German ones.

Maximum Utility Model is written as:

$$P_k = \begin{cases} 1, & U_{max} = MAX(U_k(x)) \\ 0, & \text{otherwise} \end{cases} \quad (7)$$

P_k = probability that individual chooses brand k

U_k = consumer's ratio scale preference for brand k

The basic idea is to assume that every customer chooses from available alternatives the one that provides the highest utility value (Gary, 2007).

Bradley-Terry-Luce Model is written as

$$P_k : \frac{U_k}{\sum_{k=1}^Q U_k(x)} \quad (8)$$

P_k = probability that individual will choose brand k

U_k =consumer's ratio scale preference for brand k

The rule of Bradley-Terry-Luce is based on the concept that the higher the utility of the product, the greater the probability that the customer is going to choose the product (Gary, 2007).

Logit Model is written as

$$P_k = \frac{\exp(U_k)}{\sum_{k=1}^Q \exp(U_k(x))} \quad (9)$$

P_k = probability that individual will choose brand k

U_k =consumer's ratio scale preference for brand k

The rule of Logit Model is similar to the concept of Bradley-Terry-Luce, except for the underlying theoretical rationale. In Logit Model, the computed utility values are mean realizations of a random process (Gary, 2007)

4.3.2.10 Market share result

Three methods produced different results. In Maximum Utility Model, the simulated market share is 19% for Japanese premium cars, and 53% for German premium cars. In Bradley-Terry-Luce Model, it is 15% for Japanese premium cars, 66% for German premium cars. In Logit Model, it is only 2% for Japanese premium cars, and 93% for German premium cars. In this research, the Bradley-Terry-Luce Model is selected, because its simulated result is closer to the actual data that shows market share is 10% for Japanese premium cars and 70% for German premium cars. Moreover, to verify the market share model is right or not, the statistical test for checking the representativeness

is utilized. The P-value reaches 0.929 which show that the simulation result is representative of the real data.

However, the simulation result still shows a gap between real data and simulation.

Two reasons can be provided:

- 1) The data used in comparing market share is based on the data in 2012. However, from October 2013, the anti-Japan emotion has been decreasing, therefore the sales of all Japanese auto brands are getting better (China Association of Automobile Manufactures, 2014). Compared to that, the premium car market in 2012 is quite abnormal because of tensions with China.
- 2) This questionnaire was taken in China's coastal cities, where around 70% of the Japanese cars in China are sold. Japanese premium cars may be much preferred there than in inland cities.

Although the simulation market share is different from the real data, considering the market environment and regional preference, the simulated market share is still acceptable.

4.3.2.11 What-if Analysis of market share

What-if analysis of market share can be conducted by the simulated product. The simulated product is shown in the following Table 7. According to the figure, three products are created by the attributes from the Conjoint Analysis designed before. Moreover, these three plans are made as real as possible closed to the existed premium car in the market. Plan 1 is described as a Japanese conventional hybrid premium car, which has the brand image of fashion is sold at a price of 350 thousands to 450 thousands

RMB. In addition, active safety is utilized in the car. Plan 2 is explained as a German conventional diesel premium car, which has the brand image of royalty is sold at a price of 450 thousands to 550 thousands RMB. In this car, active safety is utilized as well. Plan 3 is demonstrated as an American conventional gasoline premium car, which has the brand image of success is sold at a price of 350 thousands to 450 thousands RMB. However, passive safety is used in the car. Afterward, by using the utility score which had been mentioned before, the market share of each premium car can be calculated that Plan 1 has only 5 percent of the whole market share; plan 2 reaches 55 percent of the market share, and plan 3 obtain 40 percent of the market share. As a result, plan 1 which is indicated as a Japanese premium car has the lowest market share, and plan 2 which is indicated as a German premium car has the highest market share. Hence, replacing the level of each attribute in Plan 1 can make the product more competitive and impact the total market share by the change of utility score of the product itself.

Table 7 Market Share of Simulated Product

Plan	①	②	③
Description	Japanese	German	American
Car Type	Conventional	Conventional	Conventional
Price	350,000-450,000	450,000-550,000	350,000-450,000
Symbol	Fashion	Royalty	Success
Safety Type	Active Safety	Active Safety	Passive Safety
Energy	Hybrid	Diesel	Gasoline
Market Share	5%	55%	40%

Scenario 1 – pricing strategy

What if the Japanese company decided to cut the price to the range of 250 thousands to 350 thousands RMB for one car, the Japanese premium car would be more competitive in the market? Based on the Table 8 which shows the result of market share below, when the price of Plan 1 is decreased from 350,000-450,000 RMB to 250,000-350,000, the predicted preference share will increase from 5 percent to 10 percent of total market share.

Table 8 Scenario for Pricing Strategy

Plan	①	②	③
Description	Japanese	German	American
Car Type	Conventional	Conventional	Conventional
Price	250,000-350,000	450,000-550,000	350,000-450,000
Symbol	Fashion	Royalty	Success
Safety Type	Active Safety	Active Safety	Passive Safety
Energy	Hybrid	Diesel	Gasoline
Market Share	10%	52%	38%

Scenario 2 – branding strategy

What if the Japanese company promoted to change its brand image from fashion to royalty, the Japanese premium car would obtain more market share in China? Based on

the simulation result of market share from Table 9, when the brand symbol is switched from fashion to royalty, the predicted preference share will increase from 5 percent to 21 percent of total market share.

Table 9 Scenario for Branding Strategy

Plan	①	②	③
Description	Japanese	German	American
Car Type	Conventional	Conventional	Conventional
Price	350,000-450,000	450,000-550,000	350,000-450,000
Symbol	Royalty	Royalty	Success
Safety Type	Active Safety	Active Safety	Passive Safety
Energy	Hybrid	Diesel	Gasoline
Market Share	21%	45%	34%

Scenario 3 – car type strategy

What if the Japanese company changed their car type from a conventional car to an SUV, the Japanese premium car would have more competition in the whole China’s premium car market or not. According to the simulated market share from the following Table 10, when Japanese premium conventional car all becomes to the SUV, the predicted preference share will increase from 5 percent to 13 percent of total market share.

Table 10 Scenario for Car Type Strategy

Plan	①	②	③
Description	Japanese	German	American
Car Type	SUV	Conventional	Conventional
Price	350,000-450,000	450,000-550,000	350,000-450,000
Symbol	Fashion	Royalty	Success
Safety Type	Active Safety	Active Safety	Passive Safety
Energy	Hybrid	Diesel	Gasoline
Market Share	13%	50%	37%

Scenario 4 – Energy strategy

What if the Japanese company did not insist on the Hybrid clean energy vehicle, on the other hand, returned back to use the gasoline energy vehicle, Japanese premium car would have more market share compared with the previous one? Due to the simulated market share result from Table 11, when the Japanese premium car resets its car from hybrid vehicle to normal gasoline car, the market share of the Japanese premium car increases from 5 percent to 16 percent of market share.

Table 11 Scenario for Energy Strategy

Plan	①	②	③
Description	Japanese	German	American
Car Type	Conventional	Conventional	Conventional
Price	350,000-450,000	450,000-550,000	350,000-450,000
Symbol	Fashion	Royalty	Success
Safety Type	Active Safety	Active Safety	Passive Safety
Energy	Gasoline	Diesel	Gasoline
Market Share	16%	48%	36%

To sum up, these results from what-if analysis of market share proves that branding strategy is the most efficient method to obtain the market share currently. In addition, cutting the price and changing the car type does not have the same significant effect as the branding strategy for Japanese premium car brands. Furthermore, persistence on hybrid car may lose the market share in China's premium car market compared with the effectiveness of promoting gasoline car.

In conclusion, the Conjoint Analysis result proves that in China's premium car market, brand nationality is top of the priority for consumers during the purchasing process. Moreover, implementation of branding strategy is the most efficient strategy for Japanese automobile manufacturers to increase the market share of the premium car market in China.

5. Discussion

5.1 Contribution to plan marketing strategy

The results of the study pose three implications. Firstly, according to the dealers' interviews, the result from Ground Theory approach shows that positioning strategies are different between Japanese premium brands and western ones. Such difference leads to the misunderstanding among Chinese consumers. Therefore, Japanese automobile manufacturers need to change consumers' perception through appropriate marketing strategy, and avoid using the same strategies as their competitors. Test-driving, for instance, which is highly promoted by German premium car brands may not be a smart choice.

New marketing plans should be designed to establish a new brand image, due to the result from Conjoint Analysis that Branding strategy is the most efficient strategy, compared with price or technology strategy. Thus, DIY (Do it yourself) for the interior design of the car is a practical example. This idea comes from the NIKI's case. As Figure 24 shows, consumers can design their own shoes by changing the color, mark, and the material of the shoelaces. Things can happen to the vehicle as well. Just like doing the customization of the product, consumers can choose the material and color of the seat, the navigation for the car, and everything inside the car, except for the engine. In addition, achieving this strategy aims for delivering a message of personality, independence, and status.

From the results of the consumer preference analysis, it can be concluded that the brand image strategy is the most efficient one for the Japanese automobile manufacturers, which can promote the differentiation of the brands, and help them compete with the rivals in the market by creating its own brand language.

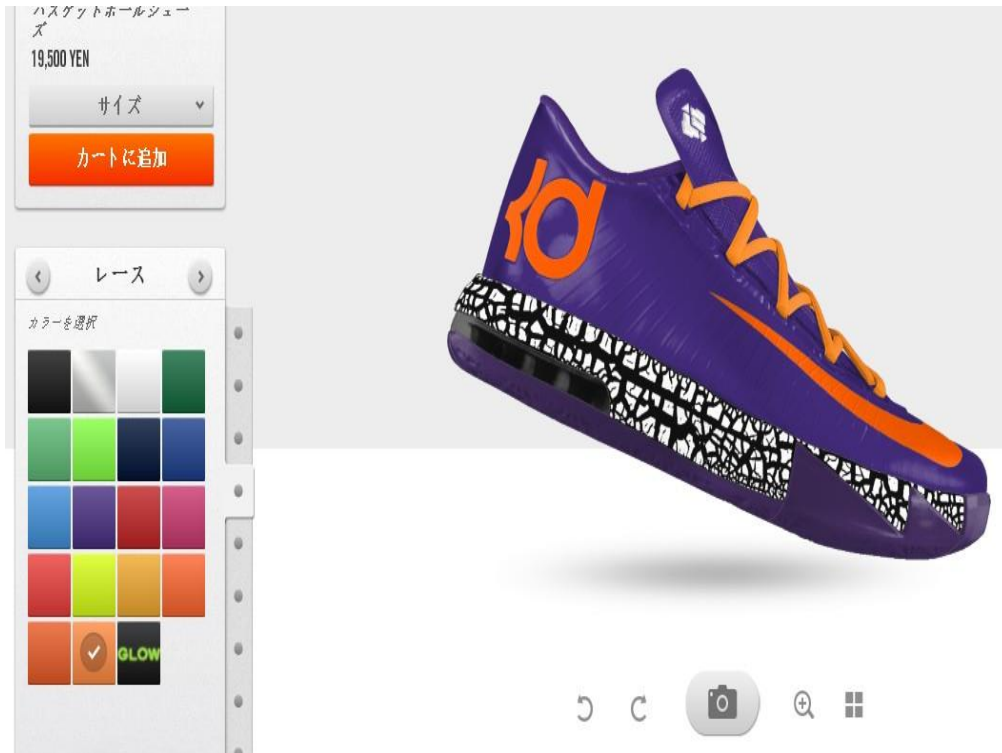


Figure 24 DIY Service in Nike's Case

Secondly, altering consumer perception is important. Based on the results from Conjoint Analysis, Japanese and German brands are highly different in terms of consumer preference. One of the key reasons is that consumers are likely to judge the safety level based on the origin of the car. Therefore, educating consumers about safety level and disclosing safety reports are vital. New Car Assessment Program, a globally

recognized safety test assessment organization, releases annual report of each brand's safety. Their report shows that Japanese premium car brands, such as Lexus, are no worse than brands from other countries. Moreover, compared with the well-known premium brands, such as BMW or Benz, Japanese brands have the equal safety level and even higher scores than any other brands.

Figure 25 shows the safety report of Lexus CT200h, Benz C-Class Coupe, BMW 1 series and Audi 1 series. The reason for comparing these four models is because they have similar size and are competitors in the same market. All of these four models obtain five stars in the rating. Yet, by looking at the specific area of each criterion, for example adult and child safety, Lexus has the highest score, which shows that Lexus CT200h has the highest safety level among these models. Therefore, publishing such reports can help convince consumers that Japanese cars are well made and safe.



Figure 25 Safety Level Score from Euro NCAP

To conclude, according to the result of consumer preference and research question, safety perception is one of the main reasons that causes the misunderstanding of Japanese brands. Therefore, it is another strategy available to provide an official report to prove the safety and quality of Japanese automobile.

Thirdly, based on the simulation result of Bass diffusion model, no matter which premium brand it is, the value of the coefficient of imitation is always larger than the value of the coefficient of innovation. This implies that in China's premium car market, marketing activity of imitation is much effective than innovation. For an instance, marketing activities such as word-of-mouth is more influential than advertisement. In other words, marketers should pay more attention to the word-of-mouth, especially in Internet social media (Trusov, Bucklin, and Pauwels 2009). Therefore, increasing presence in Chinese social media to interact with both existing customers and potential customers is important.

Based on the macro aspect from the result of demand forecast, imitation marketing is much more effective than innovative marketing in China's premium car market, which indicates that marketing plan, such as increasing the word-of-mouth's frequency is one of the best plans to implement.

Feedbacks from consumers and car makers are held to validate the marketing plans. Two interviews from consumer side are conducted.

1) Interview A:

Mr. Chen, 38 years old, a BMW car owner

---I will consider a Japanese car in next purchase. In the previous purchase, the economic benefit can be noticed mostly. After the introduction of two plans, it is difficult to judge which brand is in better quality. Moreover, the DIY service shows personality and independence.

2) Interview B:

Ms. Huang, 49 years old, a Ford car owner

---I will consider a Japanese car in next purchase. In the same condition, if Japanese car's safety level is better than other brands, I will decide to buy Japanese car next time, due to the high safety level, economic benefit and the good looking. In addition, the DIY service is great that I can make my own one and only car in the world which have not heard before.

To sum up, the interview result from customer side shows that the marketing plans are effective, because both two responders decide to consider purchasing Japanese premium car in their next time. In addition, both of them acknowledged that after the promotion of the new marketing plans, their perception of Japanese premium brands has been changed. Due to the market environment that imitation effect is much more important than innovation effect, the marketers of Japanese premium car brands should make an effort in emphasizing the imitation aspect, such as word-of-mouth.

5.2 Contribution to the academic use

This study shows a complete research process on the problem happened in China's premium car market. Both quantitative and qualitative methods are used to reach the final research goal. In the process of quantitative analysis, both macro and micro research methods are utilized to propose the most suitable marketing plans to the companies by considering and viewing the result from different aspects. All in all, this research gives a procedure on how the marketing strategy can be created.

Additionally, using Conjoint Analysis helps the company to decide which kind of products should be produced in the specific market. Especially for Japanese companies which are going to explore their markets outside of Japan, using Conjoint Analysis to understand the consumer preference is an efficient way to enter the market and obtain market share. By changing the attributes and levels, Conjoint Analysis can be adapted to not only premium cars, but also other products, such as computer, software, and service. Thus, by using this research procedure, other marketing plans can be made in other industries as well.

6. Conclusion

This research proves that during the consuming process of premium car in China, German premium car brands are much more preferred than Japanese ones, because consumer perception has a misunderstood impression on the latter ones. Through interviews with premium car dealers, underlying reasons are identified.

First, the brand language or image does not fit in the current market. While German premium car brands build a royal image, Japanese brands are synonyms for cheap or economic cars to consumers. Also, by implementing brand strategy, Japanese premium car can obtain much more market share than the current situation. Second, the ignorance of safety leads to misunderstanding which causes consumers' impression of Japanese premium cars. To address the issue, two proposals are made: DIY (Do it yourself) and disclosing annual report of new car assessment program to convince the consumer that Japanese premium cars are safer. Based on Bass diffusion model results, it is also found that internal influence is more valuable than external influence. Therefore, promoting through word-of-mouth is much more effective than advertisement. Increasing presence in social media can help boost market share.

This research's result not only contributes to the automobile industry, but also may make sense in other industries. This is due to the adaptability of the research procedure. By inserting different data from different industry to the research formulation, the result could be different so that the outcome of marketing strategy is definitely different. Therefore, by using this research procedure which not only contains qualitative

method and quantitative method, but also involves macro and micro analysis, the outcome of the research should be fine because it involves all parts of aspects.

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