Marketing Research of Motorcycle Industry in Taiwan—Personality Traits as Confounding Variable

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Abstract

The two main motorcycle user groups are office workers and students in Taiwan. The popular transportations in metropolis are cars and motorcycles. Since riding a motorcycle is more agile, convenient and easy-parking compared to driving a car, it is welcomed by those two main groups. Taiwan is an important motorcycle consuming market and has become motorcycle kingdom of the world.

In the motorcycle industry of Taiwan, sales of the four main firms accounts for 96.56% of the overall market with the sales quantity of 623,194 motorcycles, according to statistics of Taiwan Transportation Vehicle Manufacturers Association in 2013. With 4Ps and purchasing decision as independent variables, personality traits as confounding variables, re-purchase intention as dependent Variable, this study is to learn about the major concerns for customers while purchasing motorcycles.

The findings of this study are as follows. Firstly, 138 samples are divided into three groups through Cluster analysis. Weaker try-out-new-things personality traits accounted for 15.22%, neutral try-out-new-things personality traits accounted 31.88% and stronger try-out-new-things personality traits accounted for 52.90%.

Secondly, two main factors to influence purchasing decision for weaker try-out-new-things personality traits are revealed. One is the preference for cleanliness of the sales environment on "place" aspect. The other is acting in information for purchasing; the recommendation of friends and relatives is more accepted.

Thirdly, one major factor to influence purchasing decision for neutral try-out-new-things personality traits is that customers of this type expect up-to-date electronic locks can be bundled in for promotion, and it will rise their purchasing intention.

Lastly, as for stronger try-out-new-things personality traits, there are more factors that affect purchasing decisions, including comparing the prices of different brands and making comparison by Internet search on "promotion" aspect, tending to go to hypermarket for one-stand-shopping and expecting a service personnel with higher quality on "place" aspect, hoping vendors providing micro-film as main reference for selecting the product on "information for purchasing" aspect.

Keywords: 4Ps of marketing research, personality traits, purchasing decision, purchasing intention

1. Introduction

1.1 Background of the Study

Consumers choosing motorcycles as transportation tools are mostly workers and students. For those people, the reasons of the choice include lower maintenance costs and the convenience in rush hours of traffic. In additional, parking issue is another important factor. People require fast as the pace of modern life. They could not endure trapped themselves in the traffic jam or wasting time to look for a parking space while rush to work or to go to school. Thus, the above three reasons leads the appearance of "Motorcycle Ethnic" and makes Taiwan become "Motorcycle Kingdom".

Various brands of motorcycle, of course, mostly make efforts to develop new models for these two groups to attract consumers to buy. Most brands begin with getting consumers attention to the product by marketing based on 4Ps theory, then summarizing consumers concerns on purchasing decision through research of purchasing intention.

Differently, that if consumer personality traits cause any differences in the above variables is highly focused and is considered as the motivation of this study.

Table 1. Sales quantity and market share of motorcycle industry in Taiwan in nearly five years

Year	Brand	Sanyang Motor	Kwang Yang Motor (KIMCO)	Tai Ling Motor (SUZUKI)	Yamaha Motor Taiwan	Total
2009	Quantity	122,010	183,695	13,888	146,493	466,086
	Market share	25.51%	38.41%	2.90%	30.63%	97.45%
2010	Quantity	145,868	200,751	13,133	172,829	532,581
	Market share	26.94%	37.07%	2.43%	31.92%	98.36
2011	Quantity	168,112	263,331	10,827	187,254	629,524
	Market Share	26.28%	41.17%	1.69%	29.28%	98.42
2012	Quantity	144,189	261,161	8,658	178,236	592,244
	Market share	23.77%	43.05%	1.43%	29.38%	97.63
2013	Quantity	145,872	277,861	10,110	189,351	623,194
	Market share	22.60%	43.05%	1.57%	29.34%	96.56

Data Resources: Taiwan Transportation Vehicle Manufacturers Association, 2013).

1.2 Objectives of the Study

Based on the existing theoretical framework, literature review and questionnaire survey, this study tends to find out the impacts of personality traits on the following variables.

1) The differences of views caused by different personality traits on 4Ps (product, place, price, and promotion) of marketing research.

2) The differences of factors caused by different personality traits on purchasing decision.

3) The differences caused by different personality traits on purchasing intention.

2. Literature Review

This section is constituted by a total of three parts. The first part mainly explores the impacts of different personality traits on purchasing a motorcycle and analyzes the different characteristics of consumption patterns. The second part focuses on the factors of purchasing decision for motorcycle consumers and the best purchase program provided to consumers. The last part reveals related literature of motorcycle industry and 4Ps of marketing research.

2.1 Personality Traits

Modern personality traits are defined and explained by many psychologists and mainly divided into four categories, ie, Allport's Theory of Personality Trait, Cattell's Theory of Personality Trait, Five-Factor Model, Eysenck's Three Factor Model, and Marston's DISC Model.

Table 2. Lists of personality trait theories

Scholar	Summary
Allport, G. (1985)	Representative of various personality traits are analyzed by case study method
Cattell, R. B. (1966)	By using factor analysis to identify traits, 16 key personality factors are whittled to a list. Then Cattell's 16 Personality Factors(16PF) is established.
Costa & McCrae (1992)	Researchers reach a consensus compare describing patterns in terms of personality, and propose five-factor model of personality, called "Big Five".
Eysenck (1975)	Based on factor analysis approach, three-factor model of personality is proposed.
Marston, Richard C. (2001)	DISC Model : D Personality Style (Dominator / conductor):preferring to lead, having high self-confidence, using own strength to overcome obstacles I Personality Style (Influential / people-oriented): They are enthusiastic, optimistic, talkative, persuasive, impulsive and emotional. This Personality Type can get the trust of others. S Personality Type (Steady / Supportive): The Type is known for being steady, stable, and predictable. They are even-tempered, friendly, sympathetic with others, and very generous with loved ones. The S is understanding and listens well. C Personality Type (Conscientious / detail-oriented): The C Styles of DISC are accurate, precise, detail-oriented, and conscientious. They think very analytically and systematically. The C has very high standards for both themselves and others. They are perfectionists.

Data Resources: MBA lib, Theory of Personality Trait, Personality Trait Theory.

Chung (2008) applied Five-Factor model (Costa & McCrae, 1992) to develop a questionnaire to research the relationship among leadership style sense, personality traits, music preference, and performance. There are 60 questions listed in the questionnaire, and the Likert Scale is used.

Five personality traits proposed by another study are revealed as the following table 3.

Table 3. Five personality traits

Five Personality Traits	
Openness to experience	Curiosity, imaginative, unconventional VS Conservative, non-artistic, and non-analytical capacity
Conscientiousness	Working enthusiastically, punctuality, organized VS Aimlessness, lazy, perfunctory, careless
Extraversion	Active, talkative, optimistic, friendly VS Conservative, apathy, shy, serious
Agreeableness	Warm, reliable, honest, helpful VS Violent, paranoid, ruthless, irritability, hypocrisy
Emotional Stability	Anxiety, tension, emotional, anxiety VS Calm, relax, courageous, a sense of security

Data Resources: Hsueh, Hsiu-Yi; Chen, Li-Ming & Hung, Pei-Yuan (2006).

2.2 Motorcycle Purchasing Decision

There are five stages in purchase decision - making process according to Kotler and Heskett (1992). It is stressed that the purchase process actually starts before buying and is not over yet after buying. Marketing people should pay special attention to consumers throughout the whole purchase process. The five stages of purchase decision-making are described as follows.

2.2.1 Needs Recognition

Purchase process starts at a consumer recognizing that a need or problem exists that needs to be satisfied. Need Recognition is usually triggered by an internal stimuli when a particular need rises to a high enough level to become a drive of purchase.

2.2.2 Information Search

Once the need is identified, it's time for the consumer to seek information about possible solutions to the problem. The information includes personal source, commercial source, public source and experience source.

2.2.3 Alternative Evaluation

Once the information collected, the consumer will be able to evaluate the different alternatives that offer to him, evaluate the most suitable to his needs and choose the one he thinks it's best for him. Each consumer does not attribute the same importance to each attribute for his decision. This is a decisive stage in the decision-making process.

2.2.4 Purchase Decision

Now that the consumer has evaluated the different solutions and products available for respond to his need. Then purchase intention is aroused. Then proceed from purchase intention to the actual purchase itself is still affected by others' attitudes and unexpected situational factors.

2.2.5 Post-Purchase Behavior

Once the product is purchased and used, the consumer will evaluate the adequacy with his original needs and expected product performance, and he will feel either a sense of satisfaction for the product, on the contrary, a disappointment if the product has fallen far short of expectations. The level of satisfaction is relied on how the consumer feels about the product after purchasing. It will influence his future decisions and post-purchase behavior. It determines whether the consumer repeats purchasing the product and his opinion shared on the brand. Furthermore, it will lead to a chain effect to influence other consumers.

2.3 Motorcycle Selling and the 4Ps of Marketing Mix

Since McCarthy, in 1960, introduced the Marketing Mix as four controllable variables the company puts together to satisfy a target market: product, price, place and promotion (called the "4Ps"). Putting the right product in the suitable place, at the reasonable price and appropriate promotion arrangement will encourage consumers purchase behavior. The 4Ps of marketing research has become an integral part of marketing plans. However, some scholars believe that "4Ps" is processed from views of the manufacture and sales and then is influenced by the definition of marketing proposed by American Marketing Association in 1985.

Wu (2006) conducted a study on key factors of consumer purchasing motorcycle in Penghu area of Taiwan, based on 20 variables of consumer purchasing motorcycle found from interviews with dealers and consumers, as well as considering the marketing mix 4Ps and government policies facets.

Chang (2002), in his thesis, focused on exploring the differentiation of motorcycle market, the selection of target market and the systematization of product position. He applied the findings, which are brought by market survey tools and Advanced Statistics Quantitative Method, in strategic marketing. Using Multivariate Statistical Analysis, this study, based on market survey and analysis, describes the beginning of the new product development process and reviews the application of 4Ps in marketing research.

Dai (2012) found that the price and quality are the keys of purchasing in motor aluminum rims market in Vietnam, applying the concept of 4Ps of marketing research.

Hwa and Tung (2009) explored the feasibility of the development of the electric scooters in Taiwan based on the 4Ps theory. It is found that electric scooters, compared to the past, are highly improved in operating performance, product design, number of charging station...etc. The cost of an electric scooter is lower comparing to a 50cc fuel motorcycle. As for battery quality of electric scooters, the requirements have increased. Battery normalization by government enhances the convenience of charging so that purchasing motivation may increase. It is believed that electric scooters will replace 50cc fuel motorcycles in the next few years.

3. Research Methodology

This study uses questionnaire survey as a main research tool. The main target is the group of regular motorcycle users. Two-steps questionnaire research is designed.

3.1 Pilot Testing

44 pilot testing questionnaires are completed to ensure the reliability of the questionnaire and to examine reliabilities of all facets, as the basis of questionnaire modification and question delete.

3.2 Formal Questionnaire

Through the data gathered from formal questionnaire, the research analyzes data by SPSS and discusses the relations among the 4Ps of marketing research, purchasing decision, personality trait, and purchasing intention.

3.3 Research Structure

The research structure of this work is shown as Figure 1:
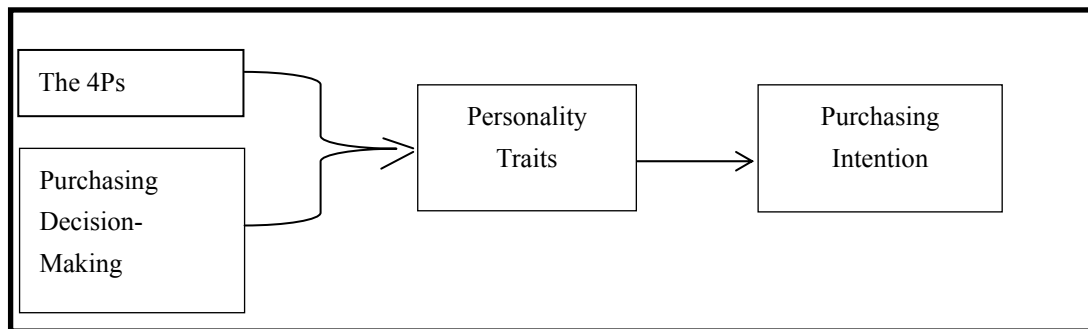

Figure 1. Research structure of this study

3.4 Definitions of Variables

3.4.1 The 4Ps of Marketing Research

Marketing Mix is the most popular application in promoting marketing campaigns. The mix includes four strategies in terms of product, price, place and promotion and makes the four co-operate with each other, so that the effect of the marketing campaign would be enhanced.

The 4Ps is one way-probably the best-known way-of defining the marketing mix, and was first expressed in 1960 by E J McCarthy. McCarthy revealed that the company engaged in marketing activities has to consider various external business environments on one hand, and to develop marketing mix strategies on the other hand. Through the implementation of strategies, the company adapts to the business environments, fulfills the needs or wants of the market, and achieves business goals. The definitions of the 4Ps of marketing research were shown as table 4.

Table 4. Definitions of 4Ps of marketing research in this study

Product	Product-oriented consumers or those focusing on the functions developed ask for products with unique selling points. The function of a product is the first concern. Moreover, a consumer's sensitivity on the price may be not high due to the performance and characteristics of the product.
Place	Companies do not directly face consumers, but contact with consumers through dealers. Therefore, for consumers, the channels selected by the dealers may bring different consumer groups due to varied traits or habits of consumers. For example, people relied on physical stores much more in the past. However, along with the time and trend changed, consumers may hope to buy the product through the internet.
Price	Price-oriented consumers or those with higher sensitivity on the price will give up purchasing or rise desires of purchasing because of changes in prices.
Promotion	Companies focus on changing sales behavior to stimulate consumers, and consumers tend to compare promotion activities proposed by varied companies to choose the one with more favorable to themselves and to buy the product which is comply with this promotion.

Data Resources: by the researcher of this study.

3.4.2 Purchasing Decision-Making

Kotler (1992) proposed a simple model of consumer behavior emphasizing two aspects of society. The model describes that a consumer's purchasing behavior is influenced by not only sales activities but also some external factors. Consumers will have different process of mental activities due to differences in personal characteristics. The process leads to some purchasing decision and determines the consumer's selections on product, brand, dealer, purchasing time, and quantity in the end.

3.4.3 Personality Trait

Personality trait refers to individual's innate character; and people with any particular character is not limited to only one person. In the modern personality psychology field, theories of personality trait define it as neural characteristics possessed by individuals with the ability to control individual behavior. It enables individuals to give a consistent response in a changing environment.

This study also uses DISC model (Marston, 2001) as reference for developing questionnaire to evaluate the personality traits of motorcycle consumers. All samples are categorized by cluster analysis of interviewee responses filled out on twenty variables of personality trait.

3.4.4 Purchasing Intention

Purchasing intention is the probability of a consumer willing to take specific purchasing behavior. The cost of maintaining an existing customers lower than the cost of acquiring a new customer, so that how to encourage customers to generate buying interest is a critical issue for marketers.

Mullet and Marvin (1985) believes that the purchasing intention is constituted by a consumer's attitude toward some product or brand coupled with actions of external factors. Purchasing intention can be considered as a consumer's subjective tendency on choosing a specific product and has been shown as an important indicator to predict consumer behavior.

3.4.5 Research Subjects

44 copies of pilot testing questionnaire are randomly distributed and all retrieved in New Taipei City. 220 copies of formal questionnaire are obtained from the Internet and a random sample, in between July to October 2013. The 44 copies of pilot testing questionnaire which are to test reliability are all valid for reliability analysis. There are only 138 valid retrieved formal questionnaires which is 62.73% of the 220. On the other hand, 82 invalid formal questionnaires, 37.27% of the 220, are excluded due to the same code filled in all facets.

4. Data Analysis

Motorcycle riders are the subjects of the survey in this study. 220 copies of questionnaire are distributed and retrieved. Removing 82 invalid ones, we obtain 138 valid copies, 62.73% of effective response rate, which is shown as Table 5 below.

Table 5. List of distribution and retrieval of formal questionnaire

Distributed Copies	Retrieved Copies	Valid Copies	Effective Response Rate
220	220	138	62.73%

4.1 Personality Trait Analysis

This study tries to distinguish the differences while purchasing motorcycles caused by different personality traits through developing a questionnaire with 20 variables on personality traits and classifying valid sample based on the degree of commendation on the variables. Therefore, K-means method in Non-hierarchical Cluster Analysis are applied here as the basis for classification.

4.1.1 K-Means in Non-Hierarchical Cluster Analysis

The valid sample is divided into 2-4 categories by K-means method first. Then according to the analysis results, it is divided into three categories for the best. The details are shown as Table 6 .

Table 6. The number of values observed of each cluster

	1	44
Category	2	21
	3	73
Valid sample		138
Missing values		0

4.1.2 Average Method

The results of above K-means Clustering and personality trait variables of valid sample are put into Average Method. In this stage, personality trait is dependent variable and the three-categories carried from K-means Clustering is independent variable. It is found that the means of the category 3 is the highest, and followed by category 1, and means of the category 2 is minimum (shown in Table 7).

Table 7. List of relations between personality traits and three-categories

Personality Trait	Category 1			Category 2			Category 3		
	Mean	No.	S.D.	Mean	No.	S.D	Mean	No.	S.D.
I'm not good at speaking facing the masses.	3.32	44	0.771	2.19	21	0.75	2.30	73	0.908
I like to think some topic and explore its causes.	3.50	44	0.699	2.67	21	0.73	3.96	73	0.611
I like to ride a motorcycle getting around.	3.34	44	0.834	2.57	21	0.81	3.95	73	0.797
I believe it is very important to comply with traffic rules.	3.98	44	0.731	2.67	21	1.06	4.1	73	0.785
I will fully express myself when I have any opportunity.	2.98	44	0.664	2.67	21	0.91	3.56	73	0.745
When getting bored and dazing, I will imagine all kinds of things.	3.43	44	0.846	2.95	21	0.86	3.85	73	0.811
I will not panic when getting in trouble and will solve problems calmly.	3.45	44	0.627	3.00	21	0.89	3.71	73	0.736
I always think of ways that other people did not think.	2.98	44	0.628	2.52	21	0.81	3.52	73	0.747
When encountering difficulties, I would look for someone to solve together.	3.52	44	0.664	2.81	21	0.87	3.59	73	0.863
I can always come up with much different answers when answering with others.	3.18	44	0.62	2.95	21	0.86	3.64	73	0.734
I often keep in good physical condition when riding a motorcycle.	3.32	44	0.80	3.19	21	0.81	3.84	73	0.817
I am happy when riding a motorcycle.	3.36	44	0.685	3.19	21	0.87	3.79	73	0.666
I will go out riding with my friends when I am free.	2.89	44	0.784	2.67	21	0.86	3.93	73	0.855
I would go to try out for new things.	3.07	44	0.728	3.00	21	0.837	4.23	73	0.613
I often keep a safe distance while riding.	3.45	44	0.791	3.33	21	0.91	4.04	73	0.789
I will try to comfort my friend when he/she is depressed.	3.75	44	0.534	3.24	21	1.09	4.18	73	0.694
I often persuade others to follow my opinions in the team.	2.57	44	0.789	3.10	21	0.99	3.37	73	0.95
My emotion is often affected by people and external things around, and it is difficult to control by myself.	3.3	44	0.93	2.33	21	1.02	3.10	73	1.002
My meal time often is not fixed.	3.59	44	0.871	2.81	21	0.87	3.37	73	0.965
I often have feelings on people and things around me.	3.77	44	0.642	3.19	21	1.03	4.01	73	0.656

4.1.3 Analysis of Personality Trait

Based on the above data analysis, after reviewing reference and discussing, we pick out those personality trait variables with means more than 4 (shown as Table 8), and then assign the variable with highest means (4.23)

among them, that is "I would go to try out for new things", as the basis for naming the three categories.

Category 3, with much more higher means, is named as "stronger try-out-new-things personality traits". Category 1, with means tending to intermediate, is named as "neutral try-out-new-things personality traits". And category 2, with lots of lowest means, is named as "weaker try-out-new-things personality traits".

Table 8. Data of the basis of personality traits categorization

Personality Trait Description	neutral try-out-new-things personality traits			weaker try-out-new-things personality traits			stronger try-out-new-things personality traits		
	Mean	No.	S.D.	Mean	No.	S.D.	Mean	No.	S.D.
I believe it is very important to comply with traffic rules.	3.98	44	0.731	2.67	21	1.065	4.1	73	0.785
I would go to try out for new things.	3.07	44	0.728	3.00	21	0.837	4.23	73	0.613
I often keep a safe distance while riding.	3.45	44	0.791	3.33	21	0.913	4.04	73	0.789
I will try to comfort my friend when he/she is depressed.	3.75	44	0.534	3.24	21	1.091	4.18	73	0.694
I often have feelings on people and things around me.	3.77	44	0.642	3.19	21	1.030	4.01	73	0.656
ratio(%)	31.88%			15.22%			52.90%		

4.2 Reliability Analysis

In this research divided into seven constructions, After a detailed evaluation and measurement, the results sorted out indicate that Cronbach's α is 0.818 of personality trait, 0.901 of product features, 0.762 of price, 0.821 of promotion, and 0.857 of re-purchasing intention, as shown in Table 9.

Table 9. Reliability analysis of formal questionnaire survey

Measured constructions	Cronbach's α
Personality trait	0.818
Product features	0.901
Price	0.762
Promotion	0.821
Place	0.732
Information search before purchasing	0.817
Re-purchasing intention	0.857

4.3 One Way ANOVA

In order to explore the difference of opinions on product features, price, promotion, place (sales channel) and information search for purchasing decision caused by different personality traits, this study applies One Way ANOVA to figure out if any significant difference existing. The standard of distinguish is P value smaller than α=0.05.

4.4 Regression Analysis

In order to explore concerns while buying a motorcycle for general consumers and those classified consumers respectively as well as common consideration for both of them, this study tends to analyze β value and p value of the regression table, taking purchasing intention as the dependent variable and taking product features, price, promotion, place and purchasing decision as independent variables.

Details One Way ANOVA and Regression analysis are shown in Table 10.

Table 10. Summary of one way ANOVA and regression analysis

Variable	Regression		ANOVA	
Product Features	β value	p value	F-test	Significance
with Anti-lock Braking System	0.051	0.558	12.621	0.000
with Brake System	0.134	0.217	8.809	0.000
with Tire Pressure Detector	0.013	0.893	4.360	0.015
Size of Rim	0.017	0.851	4.332	0.015
with Water Temperature Gauge (for water-cooled motorcycle)	0.036	0.672	6.041	0.003
with illumination with standard of headlamp	-0.01	0.92	11.208	0.000
with Event Data Recorder	0.176	0.038	24.856	0.000
with rear brake light and direction indicator	0.022	0.841	9.695	0.000
Filling hole arrangement	0.061	0.416	5.452	0.005
Price	Regression		ANOVA	
60~80 thousand for a 125cc motorcycle	0.096	0.226	4.009	0.020
Willing to buy expensive motorcycle	0.096	0.229	5.775	0.004
Price change will influence buying decision.	0.017	0.81	3.285	0.040
Installment Accepted (over budget)	0.058	0.37	3.925	0.022
Promotion	Regression		ANOVA	
Often comparing prices among different brands	-0.057	0.528	3.595	0.030
Often comparing promotions among stores	0.353	0	6.118	0.003
Often comparing prices through internet search	-0.223	0.021	5.534	0.005
Comparing prices among brands shown in advertising or flyers	0.003	0.979	4.671	0.011
Often inquiring about promotions on different brands from friends and relatives	0.022	0.801	10.699	0.000
Contacting stores to ask about promoted product or programs	0.016	0.894	7.856	0.001
Offering a up-to-date type of electronic lock	-0.012	0.89	3.323	0.039
Offering a longer warranty period	0.162	0.045	9.135	0.000
Offering gifts such as 3C products	0.107	0.207	5.307	0.006
Offering a limited-edition case	0.041	0.63	6.264	0.003
Offering zero interest installment	-0.048	0.54	10.168	0.000
Offering coupons	-0.001	0.984	7.502	0.001
Place	Regression		ANOVA	
with multiple sales channels (high convenience)	0.286	0	9.346	0.000
Cleanliness of the sales environment	0.139	0.074	7.450	0.001
The quality of the service personnel	0.014	0.853	6.487	0.002
TV shopping	-0.003	0.69	3.132	0.047
Information Search	Regression		ANOVA	
The brand has set up an official website.	0.099	0.212	16.317	0.000
Influenced by recommendation from friends and relatives	0.149	0.059	3.097	0.048
The brand has released a micro-film.	0.105	0.184	3.882	0.023
Asking others about the product features of specific brand	-0.098	0.293	6.530	0.002
Asking friends about their experience of the product	0.265	0.006	9.185	0.000

4.5 Summarized Analysis

After one way ANOVA and regression analysis, we streamline the variables and data complying with the findings to an overall table (Shown as Table 11). This study tends to find personality traits of try-out-new-things

from general consumers and classified consumers meeting p value<0.05 which reveal significant variation. It helps judge the factors of consideration while purchasing a motorcycle for general consumers and three different levels of try-out-new-things personality traits.

Table 11. Overall table of data analysis

Variable	Name of Value	General Consumer	Classified try-out-new-things personality traits			ANOVA (F test / p- value)
			neutral	weaker	stronger	
Product features						
with Event Data Recorder	β value	0.176	0.162	0.332	-0.093	24.856/0.000
	P value	0.038	0.436	0.323	0.394	
Promotions						
Often comparing promotions among stores	β value	0.353	0.089	0.253	0.285	6.118/0.003
	p value	0.000	0.643	0.598	0.023	
Often comparing prices through internet search	β value	-0.233	-0.07	-0.006	-0.251	5.534/0.005
	p value	0.021	0.683	0.992	0.037	
Offering a up-to-date type of electronic lock	β value	-0.012	-0.427	-0.38	0.029	3.323/0.039
	p value	0.89	0.029	0.423	0.778	
Offering a longer warranty period	β value	0.162	-0.099	0.039	-0.041	9.135/0.000
	p value	0.045	0.576	0.922	0.688	
Place						
with multiple sales channels (high convenience)	β value	0.286	-0.018	0.052	0.203	9.346/0.000
	p value	0.000	0.865	0.817	0.037	
Cleanliness of the sales environment	β value	0.139	-0.042	0.456	0.102	7.450/0.001
	p value	0.074	0.775	0.029	0.264	
The quality of the service personnel	β value	0.014	-0.039	0.214	-0.223	6.487/0.002
	p value	0.853	0.763	0.229	0.017	
Information Search						
Influenced by recommendation from friends and relatives	β value	0.149	-0.183	0.651	0.033	3.097/0.048
	p value	0.059	0.289	0.03	0.723	
The brand has released a micro-film.	β value	0.105	0.000	-0.55	0.185	3.882/0.023
	p value	0.184	0.999	0.099	0.023	
Asking friends about their experience of the product	β value	0.265	-0.195	0.163	0.195	9.185/0.000
	p value	0.006	0.206	0.533	0.143	

5. Conclusions

5.1 Research Findings

Populations of this study are motorcycle riders. Through related scales of personality traits, product features, price, promotion, place (sales channels), purchasing information search and purchasing intention, which is as a research tool and data search, this study is to explore factors to consider for consumers with different personality traits while purchasing a motorcycle, by applying cluster analysis, reliability analysis, one-way ANOVA and regression analysis. The findings are summarized as follows in Table 12.

Table 12. Correlation between consumers with different personality traits and the general consumers

Facet	Independent Variables	Neutral try-out-new-things personality traits	Weaker try-out-new-things personality traits	Stronger try-out-new-things personality traits	General consumers
Product features	with Event Data Recorder				v
	Often comparing prices through internet search			v	v
Promotions	Often comparing prices among stores			v	v
	Offering a up-to-date type of electronic lock	v			
	Offering a longer warranty period				v
Place	with multiple sales channels (high convenience)			v	v
	Shopping in Hypermarkets			v	
	Cleanliness of the sales place		v		
	The quality of the service personnel			v	
Information Search	Influenced by recommendations from friends and relatives		v		
	The brand has released a micro-film.			v	
	Asking others about their experience of the product				v

According scale table of research tools, this study proposes conclusions related to considerations of different personality traits in the purchase process of motorcycles and recommendations for further development direction of its application. The conclusion is described as below.

For general consumers, Event Data Recorder is considered as basic equipment which is not necessary to spend extra money to buy, while focusing on the product features in purchasing. On promotion issue, they still pay more attention to price, promotion event and warranty period which are all related with money. Most consumers are hoping to get the most products and best services with the best price. Diverse sales channels allow consumers access to demand or assistance immediately when they need any services. At last, consumer nowadays is used to mostly ask friends and relatives about their experience or feelings in the use of a specific product in order to avoid buying unsuitable products at the time of purchase products with larger amount of money.

As for consumers with stronger try-out-new-things personality traits, the factors they consider for purchasing motorcycles are even more than the other two. Part of the factors is similar to general consumers. The difference is that the two factors on the sales channel: preference in shopping in hypermarket and quality of service personnel. The feature of hypermarkets is that people are able to buy all they want in the same place, so they do not need to spend time and energy here and there. This is more in line with the purchase habits of stronger try-out-new-things consumers. In the part of the service personnel, the quality of services also may have a direct impact on consuming willingness of such customers. Another difference is that consumers with stronger

try-out-new-things personality traits have more concerns on brand images.

The purchase habits of consumers with neutral try-out-new-things personality traits indicate that a store will be regarded a good one if it has given some degree of benefit to customers; but even there's no concessions, such consumers will not have too much criticism. This is why this type of consumers considers few factors when buying a motorcycle. They are more concerning about the offer of up-to-date electronic lock. Security factor is the highest priority concern for him/her.

Compared to the other two types of consumers, those with weaker try-out-new-things personality traits are less positive and not adventurous toward new things or while making decision of purchasing something, so they strongly rely on opinions and views from friends and relatives around. As long as someone around them recommending some product, these consumers may decide to buy it. In addition, customers with the personality traits of weaker try-out-new-things, also care about cleanliness of sales places. Since if a store is clean and tidy , people are able to catch it just looking around. It is easy and does not require too much interaction with service personnel. Thus, the cleanliness of the shopping environment is also one of concerns while purchasing a motorcycle for this type of consumers.

5.2 Suggestions

In order to help motorcycle manufacturers clearly understanding consumer needs and further reflecting in the product or marketing services to close to customer needs and to lead the sales rising day by day, some suggestions are made for business improvement purposes after a series of data analysis and based on different personality traits in the process of purchasing motorcycles.

5.2.1 Improve Service Quality So That Customers Feel the Value of This Product Is Beyond Its Price

Each motorcycle company tends to show significant differences in the price. This approach is not feasible. After all, the company still has to consider the cost factor. So the company can offer more services and improve service quality to attract consumers. While a customer purchasing a motorcycle, he/she can not only appreciate the moment he bought a motorcycle, also bought a high standard quality of after-sales service, so that he/she feels a value beyond its price. For instance, within a certain period of time, the company can provide the services of inspection and maintenance to check if the motorcycle used by the customer is in line with safety and air pollution standards of the Government regulations as well as can take other detections to maintain the high level of performance. If there are still any problems after the service, re-detection service is provided. Once the problem is found caused by the depot technician negligence, the company will afford the entire afterwards spending.

5.2.2 Set up Promotions for the Economically Vulnerable Groups

Students needing motorcycles are increasing in the period of leaving high school for entering the university, or, as prospective graduates, to leave the campus into society. However, those students may not have enough economic capacity themselves and unable to pay such a huge money because their families cannot afford it for supporting. For this reason, the motorcycle company can provide special offers during graduation or back-to-school seasons. During the promotion period, students can buy motorcycles with more favorable price than the usual or better installment condition. This will not only reduce the financial burden on students and their parents, but also be a plus for the brand's corporate image.

5.2.3 Provide Multiple Sales Channels and Services

Today, there are many depots which have established regular chain and franchisee, as well as provided multiple sales channels such as hypermarket, online shopping, TV shopping, etc. It allows customers selecting suitable options of purchasing place and way. In addition to the above channels, the company can also try to set a different sales model patterns. For example, a sales exhibition can be arranged with bright and clean shopping space next to motorcycle repair store to display the newest or the best-selling motorcycles of the brand. And on the other side of the exhibition room, a series of exhibition of supplement and accessories can be put up for customers shopping without feeling bored during motorcycle maintenance. In addition, people who want to buy motorcycles can also enjoy experiencing the products and high quality services at the same time and place which other sales channels do not offer. This kind of arrangement not only improves convenience, but also makes the customers have a top-like services such as VIP. It helps the brand establishing a good impression to customers which may influence other customers by word of mouth. Sales will has good performance naturally along with good reputation.

5.2.4 Offer Customization Service to Various Types of Customer

A customer with stronger try-out-new-things personality traits generally expects sales staff providing a higher quality of service. For example, when a customer wants to get some information about a specific motorcycle, he hopes the sales staff can offer it immediately.

Customers with neutral try-out-new-things personality traits show greater demand on "security" issues of cars or motorcycles. Therefore, the company can provide this type of consumer the Event Data Recorder and up-to-date motorcycle Burglar Alarm. In addition, when the customers are planning to buy new motorcycles, the salesperson can recommend them models of this brand with electronic locking device.

As for those customers with weaker try-out-new-things personality traits, product features and first-hand information about the motorcycle are not their main concerns. On the other hand, a motorcycle is just a transportation tool to them, so they may feel irritable or overwhelmed while dealing with overenthusiastic salespersons. Sales sites they can catch sight easily will determine the brand they are going to buy for motorcycles. For instance, the company can provide a spacious and bright sales place and make the price and the names of all products clearly labeled, to create a comfortable shopping environment for such customers. It may help increasing sales of the motorcycle brand.

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