

To explore the negotiation between designers and users through Motorcycle Refit in Taiwan.

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Abstract: Taiwan has the highest motorcycle density in the world, and that is the reason why we can see not only the original motorcycles but also the ones with varied refit pass through streets. This street subculture changed the role of motorcycles in society, influenced the social rules and raised different views about designers' presumption. This study aims to discuss the following two questions in light of the phenomenon of motorcycle refit which is likely to be banned. First, why motorcycle refit was prevailing in Taiwan after 1980s? And second, why would people want to refit their motorcycles? What is their purpose and motive? By examining the historical documents and interviewing people who enjoy refitting motorcycles, we may probe into the complicated interdependence between the designers and users of motorcycle beyond the trend of motorcycle refit. The existence and development of refitted motorcycles can be understood better if we integrate designer's script, the de-scription of people who refit their motorcycles and the social viewpoints with Actor-Network Theory (ANT). It is observed that the original motorcycle insufficiency, environmental restrictions and the user's agency have given rise to motorcycle refit. A reinterpretation based on the background and meaning of motorcycle refit, if possible, helps us to examine the operation process of design from the user's viewpoint.

Key words: motorcycle refit · subculture · script · de-scription · ANT

1. Introduction: The History of Motorcycle Refit in Taiwan

For Taiwanese people, motorcycle is a highly indispensable tool in their lives. According to statistics released by the MOTC (Ministry of Transportation and Communication) in 2011, Taiwan has become the home of the highest motorcycle density in the world, with 419.3 motorcycles per square kilometer. Various roles of motorcycles had been fully demonstrated as each individual has his/her own riding pattern. Among these individuals we also noticed a unique group of riders riding meticulously refitted motorcycles passing through streets. The fashionable appearance and better performance of the motorcycle has added bountiful sub-cultural atmosphere to refitting here in Taiwan.

1.1 The origin & Development of Motorcycle Refit

To understand the history of motorcycle refit in Taiwan, we need to study the development of motorcycles and trace the sight of refitting due to a lack of historical documents in the field. Motorcycles can be traced back to the Japanese colonial period and were introduced to Taiwan from Japan. However, most of them were luxuries or

national weaponry that ordinary folks could not afford. After the Second World War, Taiwan's economy awaited for growth. With lightness and mobility as advantages, motorcycles became major vehicle for transportation and productivity in Taiwan before 1970 (Yi-Jung Lai, 2010). The motorcycle industry, where motorcycles were assembled in Taiwan with imported parts, began in 1952. It was not until 1961 that Sanyan Industry Corporation was founded and cooperated with Honda in the technical part did Sanyan become the pioneer in Taiwan's motorcycle industry, and gradually the well-known motorcycle empire (Gao, 2010).

After 1970, with the growing number of high-speed motorcycles, the introduction of disc brake system, and the improvement in Taiwan's production methods, people were gaining more knowledge of motorcycle manufacturers and parts, and motorcycle racing has become a growing trend. From then on, street racing becomes one of the subcultures in Taiwan (Kuan-Hung Lo, 2007). Since the 1980's, sport bikes optimized for enjoyment and speed have gradually been leisure-oriented or utility-oriented; for instance, NSR produced by Kymco Kwan Yang Motor Co., Freeway150, HX135(see Figure 1 and 2), etc. (Tzu-Hang Kao, 2010). In October, 1986, the first street racing event occurred. Motorcyclists rode their refitted and readjusted bikes at high speed on Da-du Road in Taipei--- which could be seen as the beginning of motorcycle refit (Ctitv, 2007). However, due to the Taiwan's conservative atmosphere in the early times, motorcycle race and racetrack establishment were seen as illegal, which in turn forced motorcyclists riding refitted motorcycles to race in the street rather than on racetracks.

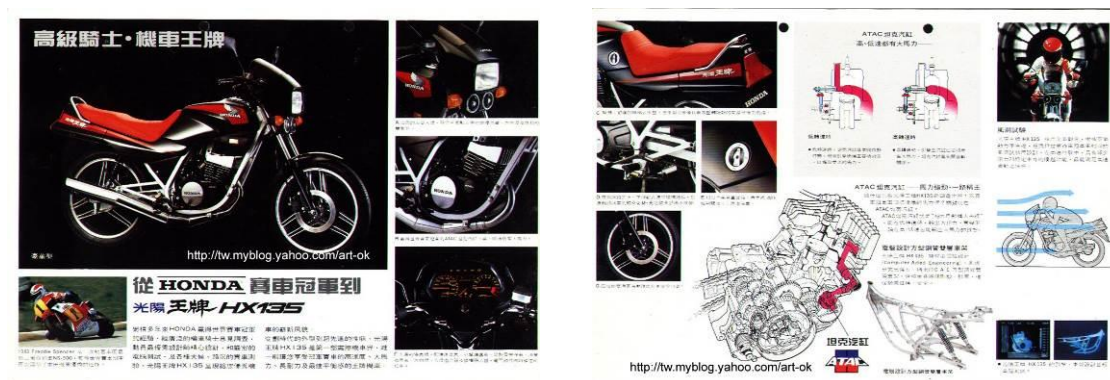


Figure 1 and 2, Kymco HX135 Motorcycle Advertisement

Source: http://tw.myblog.yahoo.com/jw!9niu_k.AERnb.3Pt4ZpM/article?mid=2052

1.2 Versatility in Motorcycle Refit

Over the past twenty years, with the rapid growth of motorcycle industry, we saw increasing motorcycles in the streets. From manufacturers' viewpoints, a greater demand on motorcycle's standardization is required considering the cost of mass production. But if uniqueness is pursued, it is motorcycle refit that can meet customers' needs (Chieh-Mao Chang, 2006). In addition, in order to avoid a low-price competition as in China and the Southeast Asia and to highlight the advantage of refitting parts, Taiwanese suppliers tried hard to demonstrate the ability and innovation in design (Taiwan Transportation Vehicle Manufacturers Association, 2008). Thanks to the growing numbers of motorcycle types and diversified cultures young people were exposed to, motorcycle refit too became of great variety. It is no longer dominated by the motorcycle race culture. Nowadays in Taiwan, motorcycle refit can be divided into two categories—power refit and visual re-design. Motorcyclists who pursue the excitement brought by speed focus on enhancing engine performance and acceleration---the same purpose for racing in the past. For visual re-design, on the other hand, motorcyclists emphasize more on uniqueness and attractiveness of the appearance. Changes such as exaggerated decorations and body alterations are more likely to be adopted. In

reality, however, it is not easy to specify all kinds of styles. The reasons for this are as the following. First, the overwhelming types of motorcycle make it difficult to classify, not to mention the items and methods of refit like off-road, body alteration, ACG (Animations · Comics and Games) and refit in light system and so on. Various refit styles can therefore be created when different refit methods intertwine. One motorcycle may include several styles of refit, so it is not easy to draw a line between refitting styles. Therefore in this study, roughly three main categories of refitting are grouped: that is appearance, structure and power.

Among the three main categories, re-design of appearance is considered the entry-level. Motorcyclists can easily change the appearance with stickers, decorations, specific parts, colorful lights or body painting etc., and enjoy highly freedom to make any change. Moreover, with the improvement in processing and manufacturing methods, a wide range of refitting brands allow refitters have more choices, thus creating innovative refitting ways (see Figure 3). When motorcyclists refit motorcycle’s appearance, the structure will usually be upgraded at the same time. For instance, change for lighter rims, better shock absorbers and brake calipers and so forth to meet the need for violent and critical riding. Such structure refitting is beyond visual refit, and reveals the fact that refitters care not only about the appearance but the feeling of riding and safety. As a result, the focus of refitting expands from appearance to operation (see Figure 4). The kind of refit which requires the most skills is power refit, for it is a combination of all kinds refit. For instance, refit of CVT systems or engines. The purpose of CVT refit is to enhance the power of an engine or acceleration in order to enjoy the excitement in riding. If more parts of the motorcycle are refitted, a higher speed is expected, and consequently more money is spent. However, the more expensive the refit, the less durable it is. It is because power refit aims to generate as much power as possible, thus it will shorten the life time of engines and parts (see Figure 5).



Figure 3, visual refit



Figure 4, structure refit



Figure 5, power refit

Source: Taken by the Researcher

Before a new product hits the market, it has to pass numerous tests for quality control, and also to meet the consumers’ needs. However, we wonder why a well-designed motorcycle is still considered inadequate to the eye of motorcyclists? Does the gap between the imagination of designers and the real need of consumers give rise to motorcycle refit? What tension is there between the two parties? Facing with great potentials of customers that can be seen through the research of users and customization service in recent years, how do designers respond to this trend of refit? It is a question worth pondering.

1.3 Script, De-script and Re-script

From the perspective of history, designing first appeared after the Industrial Revolution. The mass production demands better sales, that that is the time for designers to get involved in. Designers are good at solving the problems of production and sales, sometimes they create customers' needs by "raise the desire." The concept of Akrich's "script analysis" is an analysis method of mechanism and structure; it holds that aesthetic performance and social significance will be proposed first based on customers' taste, motivation and other usages. Then an ideal user and the way they use would be scripted in products to anticipate how products would be used (Fallan, 2010). Motorcycle is a product under the concept of script. Designers not only have to decide how the product looks like but also to manipulate people's behavior secretly like a puppeteer.

However, that is not the whole story. Designers have to take the mindset and feeling of customers into consideration as well. For instance, in the book entitled "The Evolution of Useful Things," it mentioned that the motorcycle, Leader (see Figure 8), which was manufactured in Britain in 1957, retained the traditional fuel tank artificially while the real fuel tank was installed on the rear of motorcycle. Another case of the traditional impression on motorcycle was overwhelming for designers (Petroski, 1997). Wei-Shao Chou (2003) also pointed out that just like most of motorcycle styles in the market, although manufacturers could design the products, whether or not the products could earn a place in the market was still determined by users.

Like other technical products, motorcycle originally contains lots of designers' ideology. Then users have the right to flexibly interpret the products, and consequently make the market rich in styles. Obviously, designers do not have definite power in designing because they are often restricted by sales and trends in the market. The role designer plays is more like a coordinator who tries to strike a balance between supply and demand, and to ensure that products can evolve gradually with time without being eliminated in the society by users.

A directive script is implanted into products by designers and manufactures; however, not all anticipated script will be understood, and sometimes they will be deliberately neglected or distorted. Under different situations and perspectives of usage, users would create something entirely different from what designers and manufactures had expected at first. Users can show their active attitude and the importance of being the role that push products to evolve by de-description. Designers' various products, meanwhile, will be selected or eliminated by the market and consumers. Therefore, it is critical for designers to know how to please customers. De-description not only represents the gap between how designers want to design and how products are really being used, but also brings out the different symbolic meaning of products.



Figure 8, Motorcycle Advertisement of "Leader".

Source: <http://www.vintage-adverts.com/1957-Ariel-Leader-Motorcycle-Scouter-Advert>

The manufacturer and designer implant a guiding script in the products. Nevertheless, not all of their anticipation will be interpreted correctly; some of the anticipation will be neglected or even distorted. Different context of using and users' own explanation of products will eventually create an imagination differ from that of the manufacturer and the designers'. Users can underscore their activeness by de-scription and demonstrate their importance in the course of evolution of products. Since the productiveness of designers needs to be chosen and eliminated by the public, it is vital for designers to satisfy the consumers. De-scription, therefore, represents the gap between the concerns in design and real needs in life which bring out comprehensive and symbolic meanings of products.

2. Methodology

This study focuses on the culture and experience of motorcycle refit, and adopts in-depth interview and active-observation methodology; that is, to observe and explore the culture of refit from a viewpoint of motorcyclists who enjoy refitting. The variety of refitting styles in Taiwan is too long a list to be listed respectively; as a result, instead of discussing the refitting styles, the research will concentrate on the experience aspect which sheds light on the interaction patterns between humans and the products they use.

2.1 Qualitative Research

In this study, we used qualitative research methods, which focus on people's lives, experiences, behaviours, and emotions (Corbin & Strauss 2008). In addition, qualitative research methods emphasize on the "constructional process of social reality" and "people's experience and explanation in different and unique cultural and social contexts" (Hu-You Hui, 2008). Therefore, qualitative research provides researchers an opportunity to observe the society with "bottom to top" method. With this method, researchers have to put themselves in the world of their participants...and to observe, learn, understand, tolerate and appreciate the cognitive structure of these participants (Xie-Wo Long, 2004).

We used in-depth interviews and participant observation for data collection. Unlike quantitative research which follows standardised procedures, qualitative research commonly uses semi-structured questionnaires in which in-depth interviews are characterised by their flexible design (Maxwell, 2013). Therefore, we used in-depth interviews to explore how motorcycle transforms with motorcyclist, and to observe and probe refitting culture from their viewpoints.

Semi-structured interview was used as the main framework to conduct in-depth interviews. Compared with structured interview, semi-structured interview is more flexible. Interviewers may list their interested topics to lead the conversation; this in turn not only organizes and sets a goal for the interview, but provides participants a certain degree of freedom while responding to the questions. Besides, participants are able to see the interview guide in advance to have a grasp of the outline in terms of refitting experience, and prepare answers prior to the formal interview.

2.2 Sampling and Participants

With the motorcycle refit-related knowledge accumulated in college, the author chose "convenience sampling" to gather information from friends around him who engages in refitting motorcycles in the early stage of field

research. Then “stratified purposeful sampling” took over when the study entered into field research. By interviewing different kinds of motorcyclists and comparing their refitting history, the main characteristics of refitting culture could be found. The result could be used to further analyze a deeper meaning the refitting groups convey. The participants will consequently include male and female refitters, motorcycle refitting stores, and motorcycle as well as scooter riders.

A lot of news regarding refitting-related activities such as outdoor shooting, motorcycle reunion and exhibition will be released and promoted through social platform like Facebook or official websites of motorcycle magazines. In order to join these activities and gather data for the research, the author adopted the “naturalistic inquiry” and “participant observation” approaches, only revealed his identity to the organizer, and had successfully participated in the outdoor shooting. Then the author used “snowball sampling” to get in touch with core study subjects and obtain critical information accordingly.

2.3 Coding and Data Analysis

The interpretation of information gathered during interviews starts from “open coding”---to deconstruct and classify the outcome, which helps the researchers to further understand data that had been collected. The second step goes to “axial coding”: to relate the classification from open coding in order so as to clarify and recombine the information. And finally the “selective coding”: to integrate different categories to form the “core category”, and to elucidate the issue in discussion.

The “triangulation” however, is used to maintain the quality of research. Multiple viewpoints could be acquired by integrating multi-source approaches of different natures, for instance, purposive sampling, field notes and interviews. By examining and correcting different data to evaluate the validity of research, the research offers a better evaluation method in terms of research process and result, as well as the credibility and utility.

3. Results

3.1 Self-projection of a Hero and his Horse

Pierre Bourdieu and Jean Baudrillard believed that “consumption could be seen as symbolic and creative acts.” Objects could also be influenced by consumers because “consumers/users play active roles in forming their lives through creative manipulation of objects.” Similarly, Silverstone also brought out the concept of Domestication--- “people tame the technology and artifacts that surround them. An essential point, though, is that the taming process is characterized by mutual change and adaptation.” “People use product by integrating and consuming them. At the same time, people are consumed by the products as they respond to them and engage with their properties, function and forms.” “Users modify the artifacts so they suit their needs and desires in the best possible way, but the same time, users’ behaviours, feelings, and attitudes are transformed by the products” (Fallan, 2010). For example, when a motorcyclist rides on his/her own refitted motorcycle, his/her image blends with the motorcycle’s.

After the motorcyclists start to understand their personal needs for refitting, they become style-oriented, and could therefore find a suitable co-worker to construct together. A participant said as the following during the interview: “We can somewhat compare appearance refit to a hair-cut, you need to find a hair-designer that knows

exactly what you want, and the two of you could reach a consensus by communicating.” If we apply this to motorcycle refit, motorcyclists have to connect themselves with the refitting store through motorcycles. Actually, these motorcyclists are trying to assimilate themselves with their motorcycles through refitting, making the object a part of the extended self and the carrier of their ideology. They refuse to be just one ordinary individual in the street. The sense of distinction urges motorcyclists who enjoy refitting try every means to make their motorcycles the most outstanding one on the road. Like Prince Charming with his white horse, a rider on a refitted motorcycle shows that he/her has profound knowledge in motorcycle and is particular about “riding.”

3.2 Free From the Restriction of the Original Design

It is admitted that in field research, certain kinds of refit are found detrimental to other road users, such as HID (High Intensity Discharge) headlights that are offending to the eye, or exhaust pipes that cause huge noise. Other types of refit, on the contrary, contribute to the safety of riding. The upgrade of tires, brake systems and shock absorber are a few examples of the equipment which increase the safety of riders. Most interviewees pointed out in the interview that the main reason for refitting resulted from the insufficiency of the original design. But this does not mean that there is any serious defect within the original design; it simply suggests that many consumers are tired of the same appearance and average functions of motorcycles made by mass-production. The eclectic approach to meet the public’s needs could be traced back to the presumption of designers’. As in the concept of “MAYA” (Most advanced yet acceptable) raised by Henry Dreyfuss, designers ought to strike a balance between modernity and social acceptance, so he or she can reach a middle of the road and eliminate those extreme options (Petroski, 1997).

Refitting products, therefore, provide riders an opportunity to reconstruct their motorcycles. Because the usage of some refitting products challenges the experience and knowledge of riders, they will have to grasp related information of products before purchasing. Some interviewees also mentioned: “There are many people who did not even know what the refitting was for; they just followed others and acted like copycats.” An interesting phenomenon of refitting is thus created under such an interactive pattern---refitting bigotry, that is, “to refit for refitting.” If the purpose of refitting is to get rid of the high similarity of motorcycles, then to follow others and refit motorcycles blindly simply runs counter to the original intension, and ironically blends those riders into another similar group.

3.3 Designers Constrained by Reality

To refit is to de-script and to domesticate: the user transforms themselves to get used to the product while modifying the product. People who refit motorcycles convey class consciousness through their refitted motorcycles, so motorcycles become signifiers with various images in appearance reconciled with the motorcycles themselves. Facing the change in the role of motorcycles in daily life, designers seem to have little dominance in terms of controlling the usage. As Tzu-Ning Hu (2010) mentioned: “architects are assumed to have dominance in the content of the script. However, the real dominators are construction companies and brokers. Although architects are specialists in residential planning, they can only provide basic functions in residential scripts. Architects must conform to the maximum-usable-space and interest-oriented thinking pattern.” They are also constrained by costs. As to the cost constraint, most of the designs could simply increase costs. Therefore, what designers can do is limited in response to the temptation of refit.

According to Kuan-Hung Lo (2005), the process of designing motorcycles creates “image boards,” which are collections of presumption and imagination of users in real life. To release a new design of motorcycles, in addition to the understanding of users, manufacturers and designers must take the reality, such as restrictions brought by costs and regulations into consideration, and combine opinions from the planning, researching, and purchasing departments. However, government regulations and policies cause great strain for designers and producers in Taiwan. For example, with the fifth-stage emission standards for PTWs in Taiwan increasing production costs of motorcycles under 50 c.c., buyers have lower willingness to purchase and some of the manufacturers even chose to give up the market. Besides, 51-250 c.c. motorcycles imported to Taiwan change their original designs sometimes in order to conform to environmental protection regulations in Taiwan. Ducati 1199 (Figure 6 & 7) is an example of this kind. An ill-assorted side tailpipe substitutes the original under-chassis tailpipe to pass the noise standards in Taiwan, which surprised many motorcyclists. In this case, designers not only face the pressure from the market, but make compromise under the restriction of various standards.



Figure 6, Taiwan’s Ducati 1199



Figure 7, Ducati 1199 with the Original Design

Source: <http://www.moto7.net/2013/03/ducati-1199-panigale-s.html>
<http://www.moto7.net/2012/08/ducati-1199-panigale.html>

4. Conclusion: Inspiration for design from motorcycle refit

A dazzling array of quality goods for refitting in market has provided a short-cut for motorcyclists who like refitting. Through refitting, these refitters have reshaped the usage pattern of motorcycle, broken the ordinary and restriction of the original design, and initiated a unique environment for refitting in Taiwan. The element of refitting has been included in the newly-designed motorcycles in recent years, which again shows clearly the importance of motorcycle refit. According to Design History, “the domestication of a product can be fed back into design and product development.” During the 1930s and 40s, many classic models such as Beetle & Citroen 2CV were released, and the designers’ scripts were acknowledged by the public and in turn generated massive sales. “These scripts were, at least initially, largely subscribed, but both cars underwent drastic domestication process later in their long production lives in which the products took on new meanings and identities.” “The varying subscriptions and de-descriptions of product scripts—their domestication—can result in re-inscription in new designs” (Fallan, 2010).

Wen-Sheng Chen (1996) mentioned that design is a process of transforming abstract design concepts into concrete actual products, and that designers serve as idea communicator between products and users. Also,

according to Knut H. Sorensen, domestication “has wider implications than a socialization of technology: it is a co-production of the social and the technical” (Fallan, 2010).

Through interactions or even confrontations between designers and consumers, cultural values and awareness can be conveyed; more thoughtful and more innovative products can therefore be created. So the evolution of products can be partly attributed to consumers: their invisible assistance, along with designers’ ingenuity, achieves the evolution of products. In retrospect of the blending of refit and design in motorcycles in Taiwan, when the society has expressed its feelings on motorcycle design through refitting, designers ought to make good use of the chance, try to understand the functions and reasons for refitting, and the change in mindset of consumers. This way, designers are able to turn the acquired knowledge along the process into future design elements, and actively start an unprecedented evolution. That is, to look into the process of development and growth of motorcycle refit, reconstruct its context, and to organize from designer’s angle. If a better breakthrough point could be found to bring design into the realm of refit, the complex and intertwined relations between refitter, design and society could eventually be clarified.

In Taiwan, motorcycle refit has developed for some time and has become a common phenomenon in society. Motorcyclists express their self-consciousness and individual styles through refitting. Besides one’s body, motorcycle is another vehicle for carrying messages. A well-designed motorcycle tailored to specific needs of an individual bears a meaningful symbol and express a message. Since a motorcycle carries abundant meanings in communication, thus can be used as a way of interacting with society and a way of gaining self-identity through presenting differences of an individual. Motorcycle refit can even build cohesion within a group and then shape group identity (Meng-Ling Lee, 2009). It is a pity that most people in Taiwan still regard motorcycle refit as a teenager sub-culture. In fact, motorcycle refit is not limited to teenagers because most students cannot afford the expensive refit parts or products, or pay for the professional skills and experiences involved in refitting. Consequently, extensive refit of motorcycles are often done by functioning adult members of society in better financial status. Another important issue is that people refitting their motorcycles strongly advocate the decriminalization of motorcycle refit, and hope the public can think of motorcycle refit as a kind of leisure activity. Recently motorcyclists have launched many self-disciplined activities to reverse the negative impression of motorcycle refit. For instance, they launch slogans such as “Love it, refit it, but never race”, “Be a cool rider, not a speed demon” etc.

Compared with booming growth of motorcycle refit, the development of motorcycle design in Taiwan seems stagnated. Although motor companies, such as KYMCO and SYM have cooperated with suppliers of motorcycle refit parts and launch sales of refit products (as showed in Figure 9), the strategy of combining refit products with original manufacturers could be problematic. As Hebdige (2005) had suggested: “the originality representing a subculture disappears through a process commodification.” Once the original spirits of subcultural is transformed into mass-produced objects, it will become a commonplace. The originality of refit disappears as refit products being incorporated into original manufactures and become only an accessory. Motorcycle design should not steal element from motorcycle refit, instead, it should be the communication bridge between motorcyclists, manufactures, and refit part suppliers. The in-depth understanding of the needs behind motorcycle refit is helpful for altering future design concept and for reaching a three-way consensus.



Figure 9, The Cooperation Between SYM and D2 (A manufacturer of refit parts)

Source: <http://tw.sym-global.com/>

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