To Gain A Foothold in the Luxury EV Market for Chinese New Car-making Forces Brands: Resonate with Consumers through Branding First

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Abstract. This article used a mixed methods to study the competitive disadvantages of Chinese new car-making forces brands compared with well-known foreign brands. First, based on the consumer resonance theory, the relationship between luxury EV consumers’ self-presentation needs and purchase intention was explained. On this basis, the contents of luxury EV consumers’ self-presentation needs and the product attributes they concerned were investigated through a qualitative study, and then the model to describe the relationships of luxury EV consumers’ purchasing intention, self-presentation needs and the product attributes was built. Finally, a quantitative research was performed to verify the reasonability. It was found that Chinese consumers buy luxury EV to express their self-presentation needs including business success, quality-pursuit and pragmatism. A luxury EV with a higher level of brand awareness and technological innovation, a beautiful appearance, a safe design and cost-effectiveness can meet their self-presentation needs. There is a big gap between the brand awareness, technology innovation and appearance of Chinese new car-making forces brands and the well-known foreign brands. In the future, Chinese new car-making forces should highlight the expression of drivers’ characteristics of business success, quality-pursuit and pragmatism when branding, as well as attach great importance to traditional publicity channels.

1. Introduction

In recent years, the oil consumption of the transport sector in China has been more than 50% of the whole countries’ oil consumption, which is expected to reach over 60% in 2020. Besides, the environmental problem is becoming increasingly prominent, to reduce the pressures of energy security and environmental pollution, China should change the existing energy consumption pattern to reduce fuel consumption and emissions [1]. As the promotion of electric vehicles (EV) is considered to be an effective response to pollution caused by greenhouse gas emissions and harmful fine particles, it is encouraged by many countries worldwide [2], including China. Plug-in hybrid electric vehicles (PHEV) and battery electric vehicles (BEV), collectively referred to as EVs, by reducing or entirely negating gasoline or diesel use in the vehicle [3], can help China to reduce excessive use of oil and contribute to environmental protection.

Under the strong policy support of the Chinese government, China has formed the largest EV market in the world [4], attracting various companies from all over the world to join. A wave of whole-new Chinese brands emerged among them, which was also called Chinese new car-making
forces brands. Based on the Internet industry, they focus on EVs, and their EV products are mainly targeted at the luxury EV market. The time point for the emergence of "new car-making forces" is catering to the current support direction of China’s EV industry policy, so they can enjoy many conveniences and generous financial subsidies provided by the government. However, as the market matures, China has gradually begun to weaken its policy support for the EV industry. When the original policy dividends receded, Chinese new car-making forces brands had to rely on their own strength to stand on the market. Facing with the situation that more and more traditional automobile manufacturers have begun to develop and commercialize EVs [5], coupled with the entry of foreign automobile brands such as Tesla, BMW, Benz, etc., which are well-known foreign brands, how to gain a foothold in the luxury EV market for China’s new car-making forces is a question worth studying.

Obviously, winning consumers is the only way to gain a foothold in the market, which requires studying the factors that influence consumers’ willingness to purchase EVs. On this issue, previous scholars have done a lot of research, and different results were obtained. Wang et al. (2017) [1] summarizes the factors that affect consumers’ acceptance of EVs into four categories: EV technical performance, external environmental factors, consumer demographics and personality, and consumers’ perceived value of EVs. Here, the external environmental factors largely refer to policies, such as purchase subsidies, tax exemptions, low fuel costs and driving privileges (for example, using bus lanes) (Wang et al., 2017) [6], and many studies have proved that different policies do have a certain degree of influence on consumers’ willingness to purchase EVs [7-8]. In addition to policy factors, more and more studies have found that there are some conventional demographic factors such as age [9], income [9], and education [4] will also affect people’s willingness to buy EVs from the perspective of consumer behavior. Among the factors related to products, researchers find that the purchasing price [8], performance, consumer experience [4, 7, 10] and environmental protection of EVs [2] are effective factors that encourage people to purchase EVs. Some scholars conduct research on the marketing promotion of EVs. For example, Marco Giansoldati et al. (2020) investigates the motivations of German households to adopt EVs and suggests for automakers to improve their marketing strategies by tailored advertising, and for policymakers to implement educational activities to promote EV absorption [11]; Sebastian Bobeth & Ingo Kastner (2020) and others strongly suggest expanding political support programs, such as information and image campaigns, to more effectively promote the popularization of EVs [12]. Although there are many researches on the factors that influence consumers’ willingness to purchase EVs, the researches on the influence factors of consumers’ willingness to purchase the luxury EV alone is rare to our knowledge. Although Long et al. (2019) [13] uses Tesla as an example to discuss consumers’ overall perception of automobile brand, their research objects include not only Tesla, a luxury brand, but also mid-end brands such as Toyota and Chevrolet, the research conclusions of which are not just for luxury EV brands. Moreover, compared with the traditional auto brands, Chinese new car-making forces brands lack a corresponding branding history, therefore, the research results of Long et al. may not be applicable to the problem to be solved in this article.

For high-involvement products such as luxury EVs, Muhlberger et al. (2016) [14] believe that brands have a very important impact on consumers’ purchase intentions, consumers usually will choose a specific brand to express their specific identity, beliefs and values [15], namely the self-presentation, and the extent to which can this self-presentation be expressed strongly influences user’s image of the products, and more importantly, altered the buying intention [16]. For this reason, this article will focus on the self-presentation needs that Chinese EVs consumers must meet when purchasing a luxury EV, and the relationship between this self-presentation needs and the brand, so as to put forward corresponding suggestions to solve the current dilemma faced by Chinese new car-making forces in the luxury EV market.

This article will then introduce the theoretical basis of this article and the research method in Section 2, which is a mixed methods based on combination of qualitative and quantitative analysis. Section 3 presents the results of our qualitative analysis and proposes the basic framework model describing the connection between the self-presentation needs of luxury EVs’ consumers and their
purchase intentions, as well as the EV product attributes. Section 4 shows our quantitative verification results, and Section 5 presents the conclusions and suggestions for the development of Chinese new car-making forces EV brands.

2. Theory foundation and methodology

2.1. Theory foundation
The theoretical basis of this article comes from the theory of consumer resonance, as shown in figure 1. With the improvement of people’s living standards, people buy certain products, especially cars, to meet certain self-presentation needs, that is, to reflect certain values through the use of products. Product positioning refers to the unique position that the product occupies in the minds of customers. The product positioning should be precisely conveyed to consumers, in which what aspects of the product can satisfy the consumers’ self-presentation needs. However, without effective marketing activities, the positioning that the company wants to convey may not necessarily be perceived by consumers. Once when the companies’ product positioning perceived by consumers is consistent with the self-presentation he/she wants to express, the resonance phenomenon occurs. And consumer resonance is powerful in affecting a user’s image of products and then strongly altered his/her purchased intention [16].

With the help of the consumer resonance model (figure 1), this article assumes that consumers purchase luxury EV to meet their specific self-presentation needs, and believe that a certain luxury EV brand can accurately reflect this demand, thereby generating corresponding purchase intention.

![Figure 1. A framework model of resonance between enterprise products and consumers.](image)

2.2. Methodology: a mixed-methods
The term "mixed methods" refers to an emerging research method that can facilitate the systematic integration or "mixing" of quantitative and qualitative data in a single survey or continuous survey procedure. The basic premise of this approach is that, compared with separate quantitative and qualitative data collection and analysis, this integration allows for more complete and collaborative use of data [17]. In different application scenarios, five mixed methods designs can be chosen depending on the research questions they want to answer and resources available for the evaluation [18]. And one of these five mixed methods design exists as the qualitative research is used for developing a research framework, and the subsequent quantitative research is used to test the research framework (figure 2). Usually, the qualitative study is made by interviews, while the quantitative study is made by questionnaire. This methodology is particularly suitable for studying a problem that has no fixed theoretical model to explain. This article uses this method to study the relationship between luxury EV consumers’ purchase intention, self-representation needs and brand.
2.3. Research design

2.3.1. Step 1: Qualitative study. We first selected people who are about to buy a car recently and have a certain understanding of EVs to conduct an in-depth interview. The core is to understand their self-presentation needs for luxury EVs and cognition of Chinese new car-making forces brands. In order to put consumers in the real competitive environment of the luxury EV market as much as possible, the interview was conducted in the context of a set of product comparisons, including Tesla Model Y, Benz EQC, Model Y, NIO ES8 and Enovate ME7. The reasons for choosing them are:

Benz EQC is a brand new electric SUV launched by the traditional luxury auto brand Benz, who has a long brand history and a considerable share in the luxury EV car market in China. So by using Benz EQC for comparing, we can understand the threat of the long-established traditional auto brands;

Tesla Model Y is a luxury electric SUV launched by the well-known brand Tesla. Although Tesla does not have a long history, with its unique positioning, it obtains a very good market share in the EV market. With the expansion of the production scale of its Chinese factories, Tesla Model Y will pose a greater threat to Chinese new car-making forces brands.

Enovate ME7 and NIO ES8 are both luxury electric SUVs launched by Chinese new car-making forces brands. The brand awareness of them is not so high. The difference is that NIO ES8 was born relatively early, and already has a certain market share in the luxury electric SUV market, but Enovate ME7 has not yet achieved product delivery, while the brand has been born. These two EVs represent two different development stages of Chinese new car-making forces brands.

Before starting the interview, the interviewee received four cards, showing the appearance of each car and some basic information, including purchasing price, range, power information and product positioning given by the merchant. And then answer the following questions in turn:

(1) If you decide to buy a luxury EV, which brand do you most likely to consider? why?

(2) If an individual has decided to buy a luxury EV, which of these four EVs in the pictures are you most likely to recommend for him/her? why?

(3) What do you think of the people who buys Benz EQC/Tesla Model Y/Enovate ME7/ NIO ES8?

The answers of question (1) were used to understand the respondents’ overall attitudes and comments towards the luxury EV brands, the answers of question (2) were used to investigate the most important attributes of luxury EVs that the respondents care about, and (3) were mainly used to investigate the underline self-representation that consumer wants to express by purchasing a certain kind of a luxury EV. It should be noted that, in the second and third questions, we used a projection method to ask the questions, in which people will not answer the questions based on their own situation, but an imaginary of other people. This is mainly to hope that the interviewee can have a more objective answer to psychological expressions such as self-representation.

The answers of the above questions were text mined to analyze the hot keywords, and then a framework model explaining the relationship between the purchase intention of a luxury EV consumer and his/her self-representation, as well as his brand recognition was built. The interview was conducted by face-to-face and internet calls, lasting for approximately one hour. The interview was recorded during the entire interview process under the authorization of the interviewee.
2.3.2. Step 2: Quantitative study. For the framework model built by the qualitative study, this article further measured the variables contained in the framework model through questionnaire surveys, and then a linear regression model was used to verify the relationship between consumers’ purchase intentions, self-presentation needs and brand awareness.

The questionnaire mainly involves three parts. The first part investigated the respondents’ purchase intention on Chinese domestic brand luxury vehicles and the channels for receiving information; the second part used the 7-level Likert scale to measure the variables included in the framework model, including the respondents’ willingness to purchase a certain luxury EV as pictured in the card, the degree of their self-presentation needs a luxury EV can express, and the cognition of the pictured EV product attributes; the third part investigated the demographic characteristics of the respondents, who was selected as potential consumers who either have a deep knowledge of cars, or have already had cars, or are likely to buy cars in the future.

3. Results of Qualitative Study and Hypothesis Development

Gubrium (2002) proposed that the sample size of in-depth interviews should be limited to 28-40 to ensure the concentration and effectiveness of the research [19]. A total of 40 interviewees were interviewed by qualitative research in this study, with a sufficient sample size.

3.1. Overall attitudes toward the luxury EV brands

Figure 3. Survey results of consumers’ preferences for luxury EV brands and the reasons.

Figure 3 shows the results of keyword analysis in response to the question (1). It can be seen that among the luxury EV brands, almost none of the respondents mentioned Chinese new car-making forces brand, which shows that Chinese consumers have a serious lack of the awareness of Chinese new car-making forces brand. When asked why they choose a certain brand, the keyworded related to automobile product attributes, such as brand, shape, appearance, performance, quality, fuel and safety, are mentioned most frequently.

3.2. Reasons for recommending the luxury EV brands

Among the 40 interviewees, when they were asked the question (2), 14, 22, 8 and 2 of them recommended Benz EQC, Tesla Model Y, NIO ES8, and Enovate ME7 respectively. Thus, it can be seen that Chinese new car-making forces brands are not the luxury EV brands that Chinese consumers prefer. The reasons for their choice are different (table 1). On the whole, the main reason why people recommend Benz EQC is for its performance, endurance, brand and model, Tesla Model Y is for its appearance, sign of an EV, Enovate ME7 is for its line, cost, performance and comfort, while NIO ES8 is for its cost and China related.
3.3. Personnel portrait of the buyers

About question (3) (table 2), the interviewees generally thought that the buyer of Benz EQC is a boss, successful, rich and old person; the buyer of Tesla Model Y is young, rich, and fashionable, dressed well and a business people; the buyer of Enovate ME7 is ordinary, male, and rich, and the buyer of NIO ES8 is young and rich. These portraits can represent the consumers’ self-representation needs to be expressed by purchasing a luxury EV, including successful identities (boss, rich, successful), youth, dressed well, fashionable, quality and pragmatism. In combination with the previous in-depth interview results, in which the reason why NIO ES8 is recommended is because it is China-related, so here we assumed that patriotism is also a quality of buyers.

Table 1. Reasons for recommending.

| Brands | Recommended reasons                  |
|--------|-------------------------------------|
| EQC    | performance, endurance, brand, model, stable |
| Model Y | appearance, performance, sign of an EV, endurance |
| ME7    | line, cost, performance, comfort    |
| ES8    | performance, appearance, cost, China related |

Table 2. Personal Portraits of buyers.

| Brands | Personal Portraits of buyers          | Brands | Personal Portraits of buyers          |
|--------|----------------------------------------|--------|----------------------------------------|
| EQC    | boss, successful, rich, old            | Model Y | young, rich, fashionable, dressed well, businessman |
| ME7    | ordinary, rich, young, fashionable male | ES8    | young, rich, businessman               |

3.4. Hypothesis formulation and model building

Based on the research results of section 3.2 and 3.3, this paper proposed the following hypotheses:

**Hypothesis 1.** The reason why consumers choose to buy luxury electric SUVs is because these products can meet their specific self-presentation needs, including successful, fashionable, quality-pursued, pragmatism, young and patriotism.

**Hypothesis 2.** Certain product attributes of luxury electric SUVs can reflect consumers’ perception that they can meet their specific self-presentation needs. These attributes include endurance, charging convenience, safety design, cost-effective, technological innovation, brand awareness and appearance.

Based on the above assumptions, a model to be measured was constructed, as shown in figure 4.

![Figure 4. Hypothesis model.](image-url)
4. Hypothesis verification results by the quantitative study

For the variables involved in figure 4, this article used the 7-level Likert scale to measure, and collected a total of 508 valid questionnaires supported by Wenjuanxing. This article further constructed the following model to interpret the relationship between consumers’ perception of the self-presentation by purchasing a luxury EV and their purchase intentions:

\[ W (\text{Purchased intention}) = a + b_1 P_1 (\text{Successful}) + b_2 P_2 (\text{Fashionable}) + b_3 P_3 (\text{patriotism}) + b_4 P_4 (\text{Young}) + b_5 P_5 (\text{Pragmatism}) + b_6 P_6 (\text{Quality-pursued}) \]  

(1)

By using the SPSS software to regress the model and selecting the stepwise method, we obtained the regression results are shown in table 3. Generally speaking, the influence of self-presentation needs in patriotism, quality-pursued, successful, pragmatism and young on purchase intention is significant (significance<0.05), and there is no obvious collinearity (VIF<10) among these 5 variables, so the coefficient is reliable.

All self-representation variables explained a total of 35.5% of the change in purchase intentions. Among which, patriotism and young self-presentation contributed negatively to the purchase intention of luxury EVs, which firstly means that people are unwilling to pay such a large cost for reflecting their patriotism and youngness. On the contrary, it is generally believed that the more a luxury EV can reflect people’s career success, quality-pursued and pragmatism, the more favorable it is to consumers.

Among them, reflecting the business success of consumers is most prominent, followed by reflecting the characteristics of consumers’ quality-pursued characteristics, and finally the pragmatism characteristics.

Table 3. Regression results of the influence of purchase intention and self-presentation needs (model 1).

| Ind. VAR           | Non-stand. C | Stand. C | Sig.  | VIF  |
|--------------------|--------------|----------|-------|------|
| patriotism         | -0.125       | -0.438   | 0.000 | 1.504|
| quality-pursued    | 0.070        | 0.223    | 0.000 | 1.816|
| successful         | 0.070        | 0.228    | 0.000 | 1.520|
| pragmatism         | 0.065        | 0.198    | 0.000 | 1.593|
| young              | -0.044       | 0.148    | 0.001 | 1.439|
| R2                 |              | 0.355    |       |      |

In order to further study which product attribute can enable the owners of luxury EVs to reflect the characteristics of career success, quality-pursued and pragmatism, this paper further constructed the following model for regression:

\[ P_1 (\text{Successful}) = c + d_1 A_1 (\text{Endurance}) + d_2 A_2 (\text{Charging convenience}) + d_3 A_3 (\text{Safety design}) + d_4 A_4 (\text{Cost-effective}) + d_5 A_5 (\text{Technological innovation}) + d_6 A_6 (\text{Brand awareness}) + d_7 A_7 (\text{Appearance}) \]  

(2)

\[ P_2 (\text{pragmatism}) = e + f_1 B_1 (\text{Endurance}) + f_2 B_2 (\text{Charging convenience}) + f_3 B_3 (\text{Safety design}) + f_4 B_4 (\text{Cost-effective}) + f_5 B_5 (\text{Technological innovation}) + f_6 B_6 (\text{Brand awareness}) + f_7 B_7 (\text{Appearance}) \]  

(3)

\[ P_3 (\text{Quality-pursued}) = g + h_1 C_1 (\text{Endurance}) + h_2 C_2 (\text{Charging convenience}) + h_3 C_3 (\text{Safety design}) + h_4 C_4 (\text{Cost-effective}) + h_5 C_5 (\text{Technological innovation}) + h_6 C_6 (\text{Brand awareness}) + h_7 C_7 (\text{Appearance}) \]  

(4)

The model used the stepwise method in linear regression to perform the regression, and the results are shown in table 4. Similarly, the variables of brand awareness, technological innovation, appearance and cost-effective have a significant impact on EV owners’ career success presentation needs (significance <0.05); cost-effective, endurance, and safety design have a significant impact on
pragmatism presentation needs (significance < 0.05); the impacts of technological innovation, brand awareness, safety design, and appearance on quality-pursued presentation needs are significant (significance < 0.05).

Table 4. Regression results of product attributes and consumer self-representation needs.

| (a) Model 2 (Dep. VAR.: successful) | (b) Model 3 (Dep. VAR.: pragmatism) |
|-------------------------------------|-------------------------------------|
| Ind. VAR. | Non-stand. C | Stand. C | Sig. | VIF | Ind. VAR. | Non-stand. C | Stand. C | Sig. | VIF |
| Brand awareness | 0.292 | 0.359 | 0.000 | 1.546 | cost-effective | 0.135 | 0.159 | 0.001 | 1.338 |
| Technological innovation appearance | 0.140 | 0.170 | 0.000 | 1.761 | Endurance | 0.117 | 0.121 | 0.017 | 1.474 |
| Technological innovation cost-effective | 0.079 | 0.082 | 0.019 | 1.366 | Safety design | 0.114 | 0.122 | 0.018 | 1.500 |
| R² | 0.377 | 0.377 |  | R² | 0.104 | 0.104 |  |  |

(c) Model 4 (Dependent variable: quality-pursued)

| Ind. VAR. | Non-stand. C | Stand. C | Sig. | VIF |
| Technological innovation | 0.215 | 0.230 | 0.000 | 1.685 |
| Brand awareness | 0.186 | 0.211 | 0.000 | 1.566 |
| Safety design | 0.153 | 0.156 | 0.000 | 1.355 |
| Appearance | 0.096 | 0.106 | 0.029 | 1.728 |
| R² | 0.306 |  |  |  |

It is generally believed that the more famous the brand of a luxury EV, the higher level of the technological innovation, and the more beautiful appearance, the more people agree that it can reflect the success of consumers’ careers. Similarly, the cost-effective positively to the characteristics of career success. Among them, brand awareness plays the greatest role in reflecting people’s career success. Meanwhile, it is generally believed that the more cost-effective of a luxury EV, the stronger the endurance, and the safer the design, the more people agree that they can reflect the pragmatism characteristics of consumers. It is undeniable that the contribution of these three factors to the pragmatism characteristics is not particularly high, and the contribution of cost-effective performance is relatively large.

Finally, it is generally believed that the higher the level of the technological innovation, the more well-known the brand, the safer the design, and the more beautiful the appearance of a luxury EV, the more people agree with that consumers’ quality-pursued characteristics can be reflected. Among these factors, technological innovation and brand awareness play a greater role.

Considering all factors, the importance of the product attributes that influence consumers’ willingness to buy a luxury EV is: brand awareness > technological innovation > appearance > safety design > cost-effective. Among the four cars studied in this article, the respondents’ perception on their overall performance in case of the five aspects are shown in figure 5. It can be seen that in terms of the three most important product attributes, namely brand awareness, technological innovation and appearance, the performance of the two Chinese new car-making forces brands is not as good as Benz and Tesla, and the gaps are obvious. This can be used to explain why respondents said they were unwilling to buy luxury EVs from Chinese new car-making forces brands (figure 6).

5. Conclusion and Suggestions

5.1. Conclusion
This paper used a mixed-methods to study the relationship between Chinese luxury EV consumers’ purchase intention and self-presentation needs, as well as the brand attributes. First, based on the theory of consumer resonance, the relationship between consumers’ self-presentation needs and the purchase intention was explained. Next, a framework model describing the correlation structure
between consumers’ luxury EV purchase intention, self-presentation needs and brand attributes was constructed through a qualitative study. Finally, a quantitative study was used to verify the rationality of the model. Through the research we found:

**Figure 5.** Consumers’ perception of the performance of selected.

**Figure 6.** Consumers’ willingness to purchasing (1: very unlikely - 7: very likely).

1) The main factors influenced Chinese consumers’ willingness to purchase a luxury EV including the presentation of their career success, quality-pursued and pragmatism characteristics. And they believe that these three characteristics can be reflected by the high brand awareness, technological innovation, appearance design, safety design and cost-effectiveness of a luxury EV;

2) Among all the product attributes that affect the purchase intention of Chinese luxury EVs consumers, brand awareness has the greatest impact, followed by technological innovation and appearance design, while safety design and cost-effectiveness are relatively low;

3) Chinese consumers generally believe that their willingness to buy Chinese new car-making forces brands is not as high as that of foreign well-known brands and traditional luxury automobile brands. This is mainly due to their apparently poor perception of the brand awareness, technological innovation and appearance design of Chinese new car-making forces brands.

5.2. Suggestions for future development strategy for Chinese new car-making forces brands

It was found by this research that in all product attributes, insufficient brand awareness is the most important reason why Chinese luxury EVs consumers believe that products cannot express their self-presentation needs. From the perspective of this, the performance of Chinese new car-making forces brands are obviously weaker than foreign well-known and traditional well-known automobile brands. Therefore, Chinese new car-making forces should strengthen their brand promotion, which requires them pay attention to how to make use the appearance, technology, safety and cost-effectiveness of their products to support buyers portraits of career success, quality-pursued and pragmatism when branding. In addition, Chinese new car-making forces brands should also correctly chose the brand promotion channels. Although internet advertising is convenient, fast, and has a wide range of dissemination, it is not the best choice. When respondents were asked "In the past period of time, where did you see an automobile advertisement that impressed you most?", their choice indicated that the traditional advertising channels, such as roads (42%), auto shows (40%), TV commercials (37%) and 4S stores (33%) are more important. This means that although the internet economy has brought new opportunities for Chinese new car-making forces brands, what has changed is more on the ways of communication. As a product, consumers are still concerned about the core brand value, and this cannot be quickly deposited. Chinese new car-making forces brands still need to make greater efforts in enhancing brand value.

**Acknowledgments**

This work was supported by Beijing Social Science Foundation under Grant [no.18GLB025; 19GLB024]; Beijing Municipal College Talent Teachers Team Cultivation Program During 13th Five
Years Period under Grant [no.CIT&TCD201804056]; Beijing Municipal Education Commission Social Science Program General Project; Key Research and Cultivation Projects of Beijing Information Science and Technology University for improving the scientific research level; Beijing International Science and Technology Cooperation Base of Intelligent Decision Making and Big Data Application.

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