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CONSUMER SURVEY ON “MADE IN VIETNAM” ELECTRIC CARS

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ABSTRACT

Following the rapid development of the electric car market in Vietnam, the authors conducted a survey and present the study "CONSUMERS WITH ELECTRIC CAR "MADE IN VIETNAM" in order to further solve the following problems posed in the scientific article "OPPORTUNITIES AND CHALLENGES FOR "MADE IN VIETNAM" ELECTRIC CARS"; at the same time, contribute important information to electric car manufacturers, distribution channels and future scientific research through data collected from questionnaires. Questions were asked to answer the following groups of questions: “Advantages-Disadvantages”, “Opportunities-Challenges” and “Consumers' purchasing intentions for Made in Vietnam electric car products”. After analyzing the answers from 220 participants, the research team proposes a product upgrade strategy for Manufacturers and a Marketing solution for both Manufacturers and distribution channels.

KEYWORDS

Car, electric car, Made in Vietnam.



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1. Introduction

Electric cars are developing rapidly and possess a significant share in the global car market. Vietnamese enterprises, especially Vinfast, have also had early achievements such as: launching a series of "Made in Vietnam" electric car models such as VF e34, VF 8, building a factory to manufacture these models in Hai Phong, Vietnam and North Carolina, USA. Although there have been certain successes in the Vietnamese auto market: "In the whole year of 2021, VinFast has sold a total of 35,723 cars, including 24,128 Fadil cars, 6,330 Lux A2.0 cars, 5,180 cars Lux SA2.0 and 85 VF e34 cars" (Dinh Tuyen, 2022), Vinfast confirmed that it will stop developing gasoline cars to focus on producing electric cars only. This direction shows the great ambition of the "Made in Vietnam" electric car company as well as the goal of changing the consumption habits of automobile products of Vietnamese people.

With the popularization of electric cars, Vietnam will develop a generation of "two-nos" vehicles: no exhaust pipes and no greenhouse gas emissions, friendly to the environment. This is even more meaningful when Vietnam is studying solutions to reach an agreement to bring net emissions to "zero" by 2050 at the "26th Conference of the Parties to the United Nations Framework Convention on climate change (COP26)". Many electric car manufacturers want to take advantage of this moment to launch new, modern products that are suitable for Vietnamese tastes. However, there are still few scientific research papers on the electric car market in Vietnam, which requires serious and up-to-date research on this new car line.

In this study, we use the sociological survey method to survey the level of consumers' awareness of "Made in Vietnam" electric cars, thereby proposing solutions for car manufacturers and distributors based on the results of in-depth discussion and analysis of consumer evaluations with the group of factors "Opportunities - Challenges for electric car manufacturers "Made in Vietnam", " Advantages - Disadvantages of "Made in Vietnam" electric cars, and "Consumers' purchasing intentions for "Made in Vietnam" electric cars".

2. Overview of the electric car market "Made in Vietnam"

Vietnam's electric car market is making positive changes with the participation of many car manufacturers, the trend of using electric cars and incentives from businesses and the government.

As of September 2022, the Vietnamese electric car market has had the presence of both domestic and imported car manufacturers, including Vinfast with Vinfast VF e34, VF 8 models; Thaco Joint Stock Company with KIA EV6 model, Nissan Vietnam, Toyota Vietnam with popular semi-electric vehicles such as Toyota Corolla Cross, Camry and most recently Corolla Altis... (Hoang Hiep, 2022). It can be said that most of the major car manufacturers in the world have entered the Vietnamese electric car market. This is both a positive signal for consumers when they have access to this modern technology product with competitive price and diverse choices. However, it also poses challenges for domestic electric car manufacturers such as Vinfast when they have to confront imported cars from big brands such as Porsche, Toyota...

Electric cars receive a lot of support from the Government of Vietnam, from March 1, 2022 to February 28, 2027, battery electric cars will be reduced by 12% of special consumption tax (from 15% to 3%) for vehicles with less than 9 seats; reduce 8% excise tax (from 10% to 2%) for battery electric cars with 10-16 seats (Luật Số: 03/2022/QH15, 2022) Amending and supplementing a number of articles of the Law on Public Investment, Law on Investment in PPP, Law on Investment, Law on Housing, Law on Bidding, Law on Electricity, Law on Enterprises, Law on Special Consumption Tax and Law on Civil Judgment Execution, 2022). In addition, the first registration fee for electric cars is 0% within 3 years, applied from March 2022. In the next 2 years, this fee will be 50% of the tax rate compared to that of petrol and diesel vehicles with the same number of seats (Decree No. 10/2022/ND-CP dated March 1, 2022 on subjects required to pay registration fees, registration fee payers, bases for calculating registration fees, debit, registration fee exemption, registration fee declaration, payment and management, 2022). Owing to these policies, the price of operating electric cars in Vietnam has decreased significantly, helping the sales volume of these vehicles increase. The "Made in Vietnam" electric car company Vinfast alone, accumulated from the beginning of the year to August 2022, has handed over a total of 2,208 Vinfast VF e34 cars to Vietnamese consumers (Industry and Trade Newspaper, 2022), contributing to meet the skyrocketing demand for electric cars of domestic consumers.

3. Research Methods

To conduct the study, the authors employed desk research and sociological investigation methods. Using the desk-based research method, the authors collected and synthesized documents and articles related to electric cars "Made in Vietnam" from which the research team built a survey form via Google Form. The survey focuses on questions clarifying the level of awareness and intentions of consumers of buying "Made in Vietnam" electric cars.

After building the preliminary survey, the group conducted a test interview with 05 survey participants. The opinions from the pilot survey subjects were synthesized to complete the official survey form, then the research team conducted a purposeful survey, sending the complete survey link to the employees from enterprises across Hanoi, and groups related to electric cars on social networks such as Facebook, Zalo...

Through the survey, the authors collected 220 answers. Survey data was synthesized and statistically analyzed using Excel and SPSS software, thereby analyzing and demonstrating the research issue.

With the questions about the intention of buying a "Made in Vietnam" electric car designed according to the Likert5 scale, when assessing the level of the respondents' opinions, the author determined the distance value and the average value, specifically:

$$\text{Distance value} = (\text{Maximum} - \text{Minimum}) / n = (5-1)/5 = 0,8$$

Meaning of levels:

1,00 – 1,80: Strongly Disagree

1,81 – 2,60: Disagree

2,61 – 3,40: No opinion

3,41 – 4,20: Agree

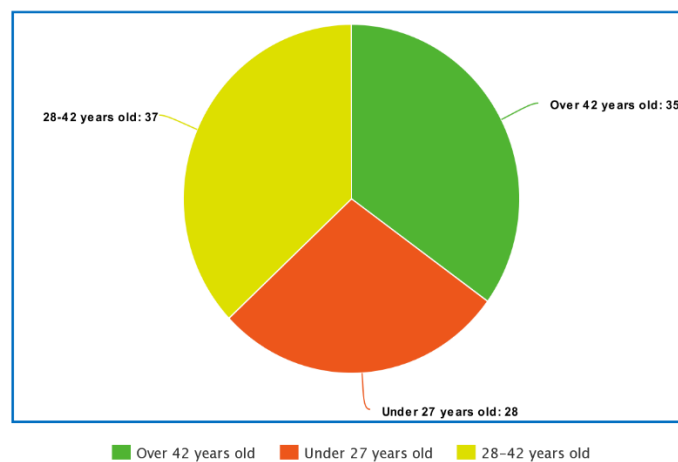
4,21 – 5,00: Strongly Agree

4. Survey results

4.1. Description of survey participants

The number of survey questionnaires collected by the research team was 220 valid forms. The age of the survey subjects is described in Figure 1. The gender of the survey subjects is described in Figure 2.

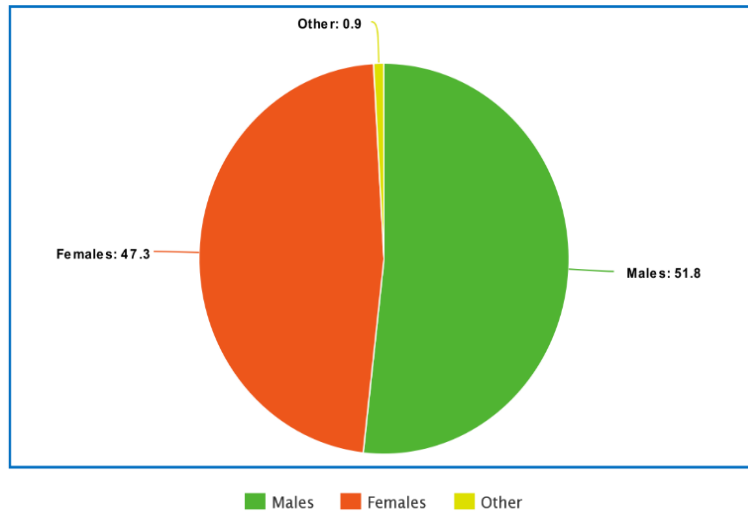
Figure 1. Age of survey participants



Source: Survey results of the research team

The age group who responded the most to the survey were those from 28-42 years old (equivalent to 37%) with a total of 81 people; there are 28 people under the age of 27 (corresponding to 28%); there are 77 people aged 42 and over (equivalent to 35%).

Figure 2. Gender of survey respondents



Source: Survey results of the research team

Regarding gender, male respondents participated in the survey with the largest number of responses, with 114 survey respondents (accounting for 51.8%). There are 104 women (accounting for 47.3%) and 3 people who answered "Other" (accounting for 0.9%).

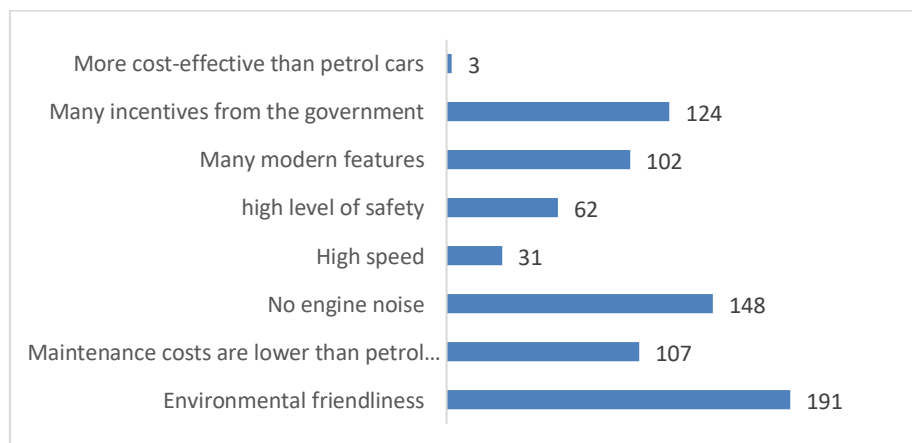
4.2. Level of consumer awareness towards "Made in Vietnam" electric cars

The level of consumer awareness towards "Made in Vietnam" electric cars will be assessed on four aspects: Advantages of "Made in Vietnam" electric cars; Difficulties faced by users of "Made in Vietnam" electric cars; Opportunities for electric cars "Made in Vietnam" manufacturers; Challenges for "Made in Vietnam" electric car manufacturers. In addition, the research team will evaluate the intention of buying electric cars of Vietnamese consumers through 5 questions designed according to the Likert5 scale.

4.2.1. Advantages of "Made in Vietnam" electric cars

Consumers have different views on the advantages of electric cars "Made in Vietnam", within the framework of a group study that examines the extent to which the vehicle's advantages are evaluated in a number of aspects, survey results are shown in Figure 3.

Figure 3: Advantages of "Made in Vietnam" electric cars



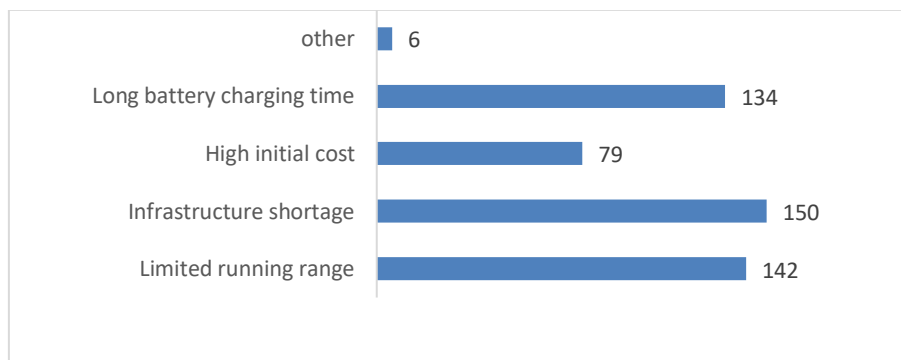
Source: Survey results of the research team

Most of the survey respondents agreed that Vietnamese domestic electric cars are "Environmentally friendly", with 191 votes in favor, accounting for 86.82% of the total votes. The factor "No noise caused by the engine" is also one of the interesting advantages of electric cars made in Vietnam with 148 votes in favor, accounting for 67.27% of the total votes. The factors "Many incentives from the government", "Lower maintenance costs than petrol cars", "Many modern features" respectively with the number of votes in favor of 124 (accounting for 56.36%); 107 (accounting for 48.63%); 102 (accounting for 46.36%). The survey results also show that less than 30% of consumers believe that "High Safety" (28.18%), "High Speed" (14.09%) and "Other (More economical than petrol cars, competitive prices in the same segment, saving fuel when gasoline prices are getting higher and higher)" (1.36%) are the advantages of "Made in Vietnam" electric cars.

4.2.2. About the difficulties that users of electric cars "Made in Vietnam" face

Besides the advantages of "Made in Vietnam" electric cars, consumers also face difficulties when using this type of vehicle. The difficulties that consumers face when using the "Made in Vietnam" electric vehicle line are shown in Figure 4.

Figure 4: Difficulties faced by consumers of “Made in Vietnam” electric cars



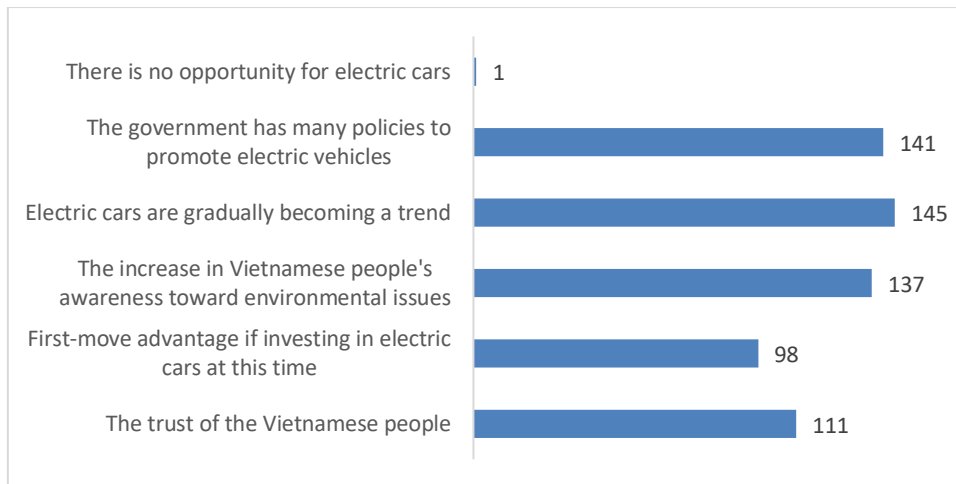
Source: Survey results of the research team

In general, the majority of survey respondents feel the difficulty regarding the power supply for electric cars (battery/battery); range and facilities of "Made in Vietnam" electric cars when using this vehicle. Specifically, up to 150 people, equivalent to nearly 70% of respondents, said that "Incomplete infrastructure" is a concern that consumers face when driving electric cars. In addition, the survey participants also had a similar view on the battery and the vehicle's operating distance with 142 votes agreeing with the argument "Limited operating range", equivalent to approximately 65% of the total votes, and "Long charging time" with 134 votes, equivalent to 61% of the questionnaires completed. Regarding the price, 79 people said that "Made in Vietnam" electric cars have "High initial cost", equivalent to more than 1/3 of the total votes. There are 6 surveyed people who have different views on the difficulties they face when using "Made in Vietnam" electric vehicles, including: "Change in car usage habits, High cost of battery replacement, No money to buy, warranty, maintenance and repair of vehicles after purchase", accounting for 2.73% of the total survey votes.

4.2.3. Opportunities for "Made in Vietnam" electric car manufacturers

Many electric car manufacturers have identified opportunities and want to take advantage of these to launch new, modern and suitable products for the demand of Vietnamese customers. In our survey, some opportunities for electric car manufacturers are shown in Figure 5.

Figure 5. Opportunities for "Made in Vietnam" electric car manufacturers



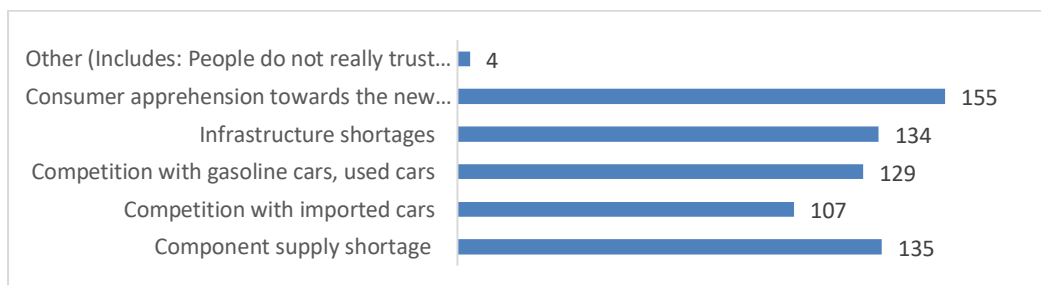
Source: Survey results

Assessing what opportunities are available to "Made in Vietnam" electric car manufacturers, there is only 1 opinion that answers there is no growth opportunity for Vietnamese electric car manufacturers. In contrast, nearly 66% of respondents think that electric cars are gradually becoming a trend, corresponding to 145 answers. Along with that, 141 consumers (equivalent to 64% of respondents) believe that electric cars have a wealth of opportunities thanks to the Government's policies to promote the production and consumption of electric vehicles. In the "environmentally-friendly fuel era", consumers have a strong awareness of environmental issues. For instance, more than 62% of survey respondents (137 votes) said that awareness of environmental issues by them and other consumers is a positive factor to help "Made in Vietnam" electric cars develop. The success of some other "Made in Vietnam" models such as Fadil is also a factor that helps electric cars made in Vietnam gain the trust of consumers: Leading the volume of cars sold nationwide in 2021 (Tra, 2022). In fact, more than half of the votes (111 votes) said that the trust of Vietnamese consumers is a positive factor, creating opportunities for "Made in Vietnam" electric car manufacturers to achieve the desired sales in the future. The "First-move advantage" factor is also included in the survey to measure consumer belief in Vinfast's advantages. At the moment, Vinfast is at the point of Tesla (An electric car company in the United States) 7 years ago, which is leading in a country's market and almost the first domestic electric car company in the regional area. The results showed that 98 people said that the "First-move advantage" will create opportunities for "Made in Vietnam" electric cars, accounting for approximately 45%.

4.2.4. Challenges for electric car manufacturers "Made in Vietnam"

Besides the opportunities, vietnamese electric car manufacturers also face many challenges. Our survey results also point out some challenges shown in Figure 6.

Figure 6. Challenges for "Made in Vietnam" electric car manufacturers



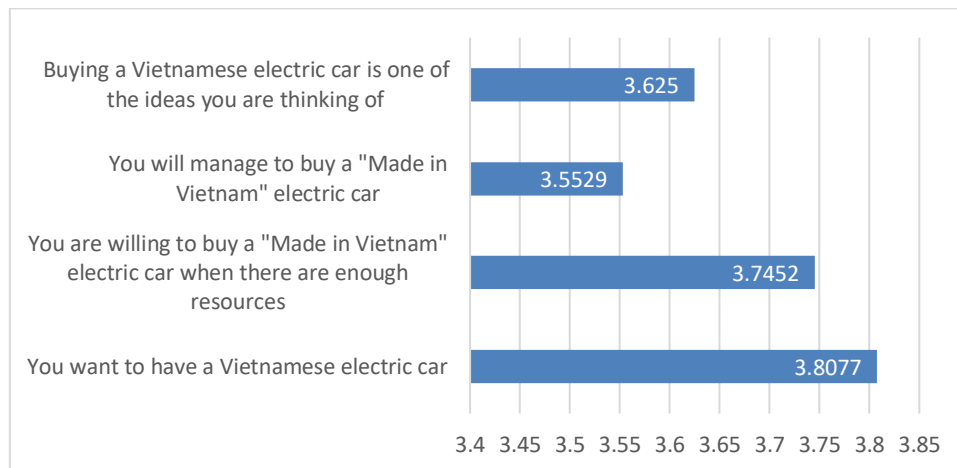
Source: Survey results

Survey participants suppose there are some difficulties that enterprises assembling "Made in Vietnam" electric cars will have to solve in both the long and short term. In the short term, factors such as "Component supply shortage, The shortage of infrastructure for electric cars, and Consumer apprehension towards the new

product line" are expected to negatively affect the development of Vietnamese electric cars, accounting for 61.4%, 60.9%, and 70.5%, respectively. These are also the top 3 challenges for electric car manufacturers based on the survey results. This is followed by factors of competition for other car products such as imported cars and used cars, accounting for 48.6% and 58.6%, respectively. In addition, there were also 4 answer votes saying that "Consumers do not really trust electric cars", "After-sales system, Limited ability to master the technology of Vietnamese enterprises", "Small capital market, difficult to mobilize for global racing" and "High price", accounting for a total of 1.81% of the total votes.

4.2.5. Consumers' intention to buy "Made in Vietnam" electric cars

Figure 7. Intention to buy electric cars "Made in Vietnam"



Source: Survey results

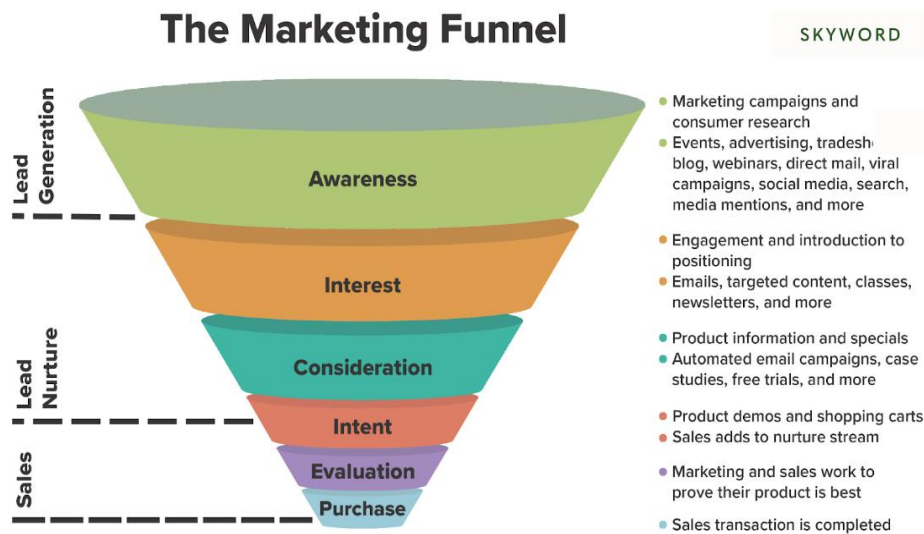
The question "Intention to buy a "Made in Vietnam" electric car is designed according to the Likert5 scale based on the level of desire to own this model of Vietnamese consumers. We have an increasing level of consumer desire corresponding to the following variables "Buying a Vietnamese electric car is one of the ideas you are thinking of", "You will manage to buy "Made in Vietnam" electric cars, and "You are willing to buy a "Made in Vietnam" electric car when there are enough resources", "You want to have a Vietnamese electric car".

5. Discussion

After analyzing the survey results of 4 questions about consumer opinions and intentions for "Made in Vietnam" electric cars, our research team will propose some solutions for "Made in Vietnam" electric car manufacturers to optimize the production line, in accordance with the tastes of Vietnamese consumers. Along with that is proposing marketing solutions to optimize opportunities for dealer channels to distribute "Made in Vietnam" electric cars.

Figure 7 shows the results for the question of consumers' intention to purchase electric cars. It is evident that most survey participants have the desire to buy a car at the first level: "Buying electric cars in Vietnam is one of the ideas you think of". It means that the majority of customers are at the Awareness stage in the "Marketing Funnel" (Figure 8).

Figure 8: Marketing Funnel



For manufacturers and distribution channels, the most important task for them now is to make customers remember their brand when it comes to electric cars. To do that, businesses need to create customer personas and make advertising content to solve customer problems with the following solutions.

Our solutions are proposed based on a very common law which is promoting strengths and limiting weaknesses; taking advantage of opportunities and solving difficulties. Therefore, the following solutions are proposed from the data of the question groups "Advantages - Disadvantages", and "Opportunities - Threats" in the survey.

Firstly, for the "Pros and cons" question, our team found that the majority of consumers still do not have confidence in the safety of Vietnamese electric cars. In fact, the high-end version Vinfast VF E34 has been tested to meet EURO NCAP 5/5 star safety standards (VINFAST, 2021), which is not inferior to other foreign high-end cars such as Land Rover Defender 2020 and Isuzu D-MAX (EURO NCAP, n.d.). What needs to be done for electric car manufacturers is to put their products on more tests, and run content advertising campaigns focusing on the fact that "Vietnamese electric cars pass all safety tests". In addition, one of the most worrying issues consumers have when using electric cars is still about batteries. In the previous research paper, the authors mentioned that although the VF e34 electric car can run up to 285km on 1 full charge (v.nammh, 2021), it is still difficult for the car to meet the needs of consumers when they have a round trip to other cities. To solve that, there is no other way that manufacturers like Vinfast should develop battery technology to help cars go further. In addition, manufacturers can also offer consumers many choices of batteries and prices to meet the variety of needs of consumers.

It is witnessed that electric vehicles manufactured in Vietnam have the special attention of consumers due to environmental issues (Superior to technical, safety, and technological factors). To take advantage of this, automakers should develop both software and hardware technologies for the cars to improve the energy efficiency of vehicles in order to solve 3 problems at the same time: Environmental friendliness, performance exceeding expectations, and cost-saving. In addition, large-scale marketing campaigns on environmental awareness will also help change consumer behavior towards "Made in Vietnam" electric cars.

Secondly, for the group of questions "Opportunities - Challenges", the survey participants mostly said that their apprehension about the new electric cars is one of the challenges for domestic automakers. This complements our point on the urgency of branding and changing consumer habits. We believe that doing this will take years, but when successful, it will help electric car manufacturers increase sales and have a stable loyal customer base. This becomes extremely important right now because the survey results also show that 65.9% of

customers admit that "Electric cars are gradually becoming a trend". Therefore, electric car manufacturers need to utilize the opportunity and first-move advantage to build a large and loyal customer base.

Above is our survey of 220 people from different age and gender groups. Research results show that the majority of consumers think that "Environmental friendliness" is the biggest advantage of "Made in Vietnam" electric cars. Many of them believe that Vietnamese domestic electric cars have a great opportunity to develop because this model is becoming a trend. However, to achieve expected sales, automakers also need to address consumer apprehension about this new model, especially over the battery capacity and travel range of the cars. The discussion was done based on the results of group discussion method, along with data analysis; from that, we propose a number of solutions for businesses as well as dealers such as focusing on improving vehicle technology, marketing to the right target audiences, and offer the right solutions that meet customer demand. However, this article was not done with the result of primary data processed by highly accurate tools. The research results help us understand the needs and concerns of customers for electric car products, but cannot confirm which factors strongly affect consumers' decision to purchase "Made in Vietnam" electric cars. This research paper is part of a series of research articles from simple to in-depth about "Made in Vietnam" electric cars. Our future articles will be carried out with modern, accurate and highly reliable quantitative analysis tools to suggest development directions based on scientific research to offer more accurate solutions for "Made in Vietnam" electric car dealers as well as manufacturers.

References

English:

1. EURO NCAP. (n.d.-a). *Official Isuzu D-MAX 2020 safety rating*. <https://www.euroncap.com/en/results/isuzu/d-max/41401>, Accessed October 12, 2022
2. EURO NCAP. (n.d.-b). *Official Land Rover Defender 2020 safety rating*. <https://www.euroncap.com/en/results/land+rover/defender/41395>, Accessed October 12, 2022
3. Skyword. (2020, October 2). *How the Marketing Funnel Works From Top to Bottom*. <https://www.skyword.com/contentstandard/how-the-marketing-funnel-works-from-top-to-bottom/>, Accessed October 12, 2022

Vietnamese:

4. Hoàng, H. (2022, March 21). *Báo VietnamNet*. VietNamNet News, <https://vietnamnet.vn/o-to-dien-do-bo-vao-viet-nam-nong-cung-chien-luoc-cua-ty-phu-pham-nhat-vuong-824157.html>, truy cập ngày 12/10/2022
5. Hương, T. (2022, February 23). *Tại sao VinFast Fadil trở thành mẫu xe ô tô bán chạy nhất 2021*, https://vinfastauto.com/vn_vi/vinfast-fadil-xe-o-to-ban-chay-nhat-2021 truy cập ngày 12/10/2022
6. Trang Anh (2022), *Trên 31.000 xe ô tô bán ra trong tháng 8/2022*, Báo Công Thương Điện Tử, <https://congthuong.vn/tren-31000-xe-o-to-ban-ra-trong-thang-82022-219840.html>, truy cập ngày 12/10/2022
7. Võ Đình Tuyển (2022). *VinFast bán ra tổng cộng 35.723 xe ô tô trong năm 2021* https://vinfastauto.com/vn_vi/vinfast-ban-ra-tong-cong-35723-xe-o-to-trong-nam-2021, , truy cập ngày 12/10/2022