



Reflecting Best Practice on Vietnam, How to Develop Indonesia's National Electric Car Strategy

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Abstract

On May 14-17, 2024, the researcher had the opportunity to visit the factory and meet with the executive team of VinFast, Vietnam's national electric car. After a long discussion with Indonesian journalists and automotive content creators, the researcher concluded that Indonesia is far behind Vietnam in developing national electric cars. On that basis, the researcher want to conduct research to develop an electric car strategy from upstream to downstream. The research approach is qualitative with the travelogue method (Davey, 2023) and Design and Development Research (Richey & Klein, 2009, 2013) with direct observation data collection in Vietnam, interviews and studies of social media and mass media. The analysis and research procedures produced a design for developing a national electric car. The results of this study (1) require political will from the government and synergy with the private sector to realize electric cars; (2) it is necessary to build a solid electric car ecosystem from upstream to downstream; (3) encourage mutually beneficial investment schemes to attract domestic investors; (4) encourage gotong royong (mutual cooperation) in Indonesian society. The strategy model for developing electric cars in Indonesia is oriented towards rapid market development and sustainable industries by learning from successful concepts in Vietnam.

Key words : National Electric Car, Vietnam, Indonesia, Strategy and Development

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INTRODUCTION

A friend of the researcher, who worked as a diplomat at the Japanese Embassy in Jakarta, once said, "From several countries I was assigned to, I really enjoyed working in Indonesia". The researcher immediately asked the young diplomat who had studied postgraduate at Gadjah Mada University and was fluent in Indonesian Language. "I see a lot of Japanese products here," he answered briefly.

The researcher forgot when the conversation took place and year. But, it shows that products or brands originating from a country will create pride for the people. It's the same as when the researcher went abroad, when the researcher found Indomie, it was really fun and proud because the researcher could eat instant noodles in another country. But, the question that has been on my mind for a long time, why only instant noodles? Why not other products, like electric cars?

Research also shows that when buying a car, people pay attention to the relationship between the country that produces it, the country that designs it, in addition to experience and brand equity (Chen et al, 2011). Perceptions about domestic and imported cars do affect the personality of a brand (Fetscherin & Toncar, 2010). It shows that national brands have a positive association in the production of certain brands (Anholt, 1998).

Until then, the researcher got the opportunity to visit Vietnam. The researcher got an invitation to visit the VinFast car factory. Initially, the researcher already knew that VinFast was indeed a national brand car from Vietnam. The question is, why is Vietnam able to develop a national electric car, while Indonesia has not been able to? That question was raging in my heart and mind.

Actually, the Indonesian government is collaborating with Geely Automobile to produce a national electric car (Anholt, 1998). However, electric cars have been developed by several agencies in Indonesia, such as research institutions (LIPI and BPPT), universities (UI, UGM, ITB, UNS, and ITS), state-owned enterprises (PT Pindad and PT DI), and the private sector (PT Sarimas Ahmadi Pratama and PT GRAIN), so it needs real support from the government and synergistic cooperation between various parties (Subekti, 2014).

Indonesia has had experience in trying to make a national car. In 1996, Indonesia developed a national car with the help of Kia Motors from Korea, but failed due to the economic crisis (Hale, 2001). In addition, the national car project was also disrupted by the Low Cost Green Car policy (Fatkhurahmah, 2015), coupled with the technology used in the national car not being able to compete with cars from other countries (Indraprahasta, 2015). Learning from this failure, the national electric car program in Indonesia has not yet reached a bright spot. The cause of the failure of the national car in Indonesia, according to Gibran (2024), is the dependence of the Indonesian national car industry on the technology transfer program where Japan is still too protective of technology transfer.

A comparative study of the development of electric cars in Indonesia and South Korea conducted by Tenggara et al. (2021) revealed technology policies and implementation in the private sector. However, developing a national electric car is not easy. In building an electric car industry, Indonesia faces various challenges such as costs, standards, power generation, incentives, security and integration (Suprobawati et al., 2021).

In Southeast Asia, Proton can be a model in developing national cars for developing countries with global competitiveness (Ahmed & Humphreys, 2018). Proton's success is because the Malaysian government does not

want to depend on multinational companies and foreign investment (Fleming & Soborg, 2017). Singapore is also not left behind by having Dendrobium which is known as a supercar type electric car (Wee, 2022).

What attracts the world's attention is Vietnam. Vinfast is the first national car brand in Vietnam (Huu, 2021). VinFast is the only domestic electric car in Vietnam (Tuan, 2022). The Made in Vietnam car factor, consumer income, taste, price, market expectations and government policies are the reasons why national electric cars are growing rapidly in the country (Anh et al., 2024). VinFast is growing rapidly, not only dominating the domestic market, but also exporting to various countries (Nguyen & Phams, 2022).

As a good start, the Indonesian government has made a policy to encourage the use of electric cars (Pambudi & Juwono, 2023). Research by the National Research and Innovation Agency (BRIN) also proclaimed that the government is promoting the adoption of electric cars in national policies by providing incentives (Pambudi & Juwono, 2023). To realize a national electric car, the development of electric car refueling infrastructure is urgently needed (Pambudi & Juwono, 2023). In a global comparative study of electric car policies, Wong (2015) narrated that incentive policies are not a priority, but in density of electric battery charging stations and fuel prices are determining factors.

In addition, in South Korea, Kim et al (2021) explained four main factors influencing the development of electric cars, namely national subsidies, regional subsidies, charging infrastructure and fuel prices. While in China, research and development factors, investment, usage costs, carbon quotas and conventional car usage costs (Liu et al, 2018). In China, the purchase of electric

cars is influenced by social influences, environmental concerns, self-confidence and openness (Cui et al., 2021). In Mexico, which was studied by Briseno et al (2021) showed that environmental factors and energy efficiency are important factors. while in India it is influenced by financial incentives and ease of use (Jaiswal et al., 2021).

In Vietnam, the government encourages people to use electric cars and makes policies to attract electricity, to community empowerment (Nguyen et al., 2020). Then, government support, environmental perceptions, infrastructure and performance are important factors in purchasing Vietnam electric cars (Nguyen et al., 2020). Vietnam's automotive industry has contributed to supporting low-carbon transportation (Nguyen et al., 2020). Moreover, support for electric cars is incomplete, because the lack of infrastructure and the transition to electric car use still trigger problems (Nguyen et al., 2020).

How about in Indonesia? As a good start, the Indonesian government has made a policy to encourage the use of electric cars (Pambudi & Juwono, 2023). BRIN research also states that the government is promoting the adoption of electric cars in national policies by providing incentives (Kusharsanto et al., 2024).

The government has implemented tax cuts to attract people to buy electric cars (Khairani et al., 2022). Dirghayani et al. (2021) disseminated that compared to other countries, government intervention in providing infrastructure and general standardization is limited. The Indonesian government has actually made policies and regulations, such as fiscal arrangements and non-fiscal measures for electric cars (Hidayat & Cowie, 2023).

With this background, the purpose of this study is to explore the development of a national electric car strategy in Indonesia by reflecting on the best experiences that Vietnam has done. Later, this study is expected to

produce a model for developing a national electric car strategy in Indonesia which can later become the main reference.

RESEARCH METHODS

The research method used in this study is travelogue which is actually something new. However, this method is very appropriate to be applied in this study with a critical constructivist paradigm. The approach to the research is qualitative.

Davey (2023) positions travelogue as a research methodology because it is able to obtain meaning and experience as a form of social process construction. Thus, travelogue is a form of field trips that can be used as a research instrument (Eden et al., 2019).

The main reason for implementing travelogue as a research method is the researcher's short visit to Vietnam with limited time and access. In addition, the travelogue method provides a refresher of thinking in research because it presents a different approach, but still has a research quality that can be accounted for.

The data collection method is carried out in two stages. The first stage is field observation, visualization with photography, and interviews conducted in Vietnam on May 14-17, 2024. After that, the researcher conducted interviews, studied electric car policies in Indonesia, and analyzed mass media and social media.

In the analysis, this study uses a thematic analysis approach supported by interpretative. In this way, travelogue will gain reflexivity and try to get other people's representations by "scrutinizing your assumptions, attitudes, rhetorical conventions, social categorization, and socialization shaping the research" (Davey, 2023, p. 286).

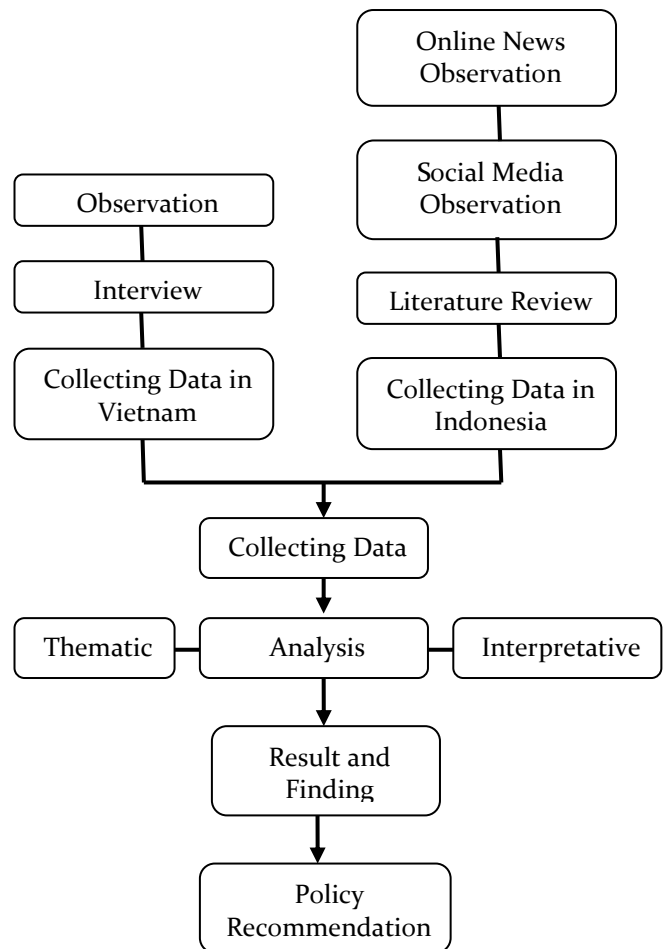


Figure 1. Research method flowchart

The ultimate goal of this study will provide policy recommendations for the government and private sector in developing national electric cars. The main goal of the travelogue research method is to produce regulations for policy makers (Selamet, 2022). The best way to carry out travelogue is to narrate the phenomenon so that it produces an appropriate recommendation (Davet & Zhao, 2021).

In helping to develop models and designs for national car development strategies in Indonesia, researchers also use design and development research (Richey & Klein, 2014). Later, it is hoped that there will be a picture of the model and design that can be applied for the interests of the government or the automotive industry in Indonesia.

RESULTS AND DISCUSSION

The findings of this study are more travelogue style, which tends to be based on notes that are more personalized and subjective, but can be scientifically accounted for. The style of the research findings is also more qualitative, prioritizing storytelling and emphasizing a very strong narrative aspect, while still emphasizing a thick and solid empirical aspect. In the research findings, the researcher uses five main themes that refer to learning from national electric cars in Vietnam, consisting of the government's political will, innovating based on the future, building an electric car ecosystem, constructing investment for investors, nationalism and mutual cooperation. These findings will later form the basis for the discussion section to formulate policy recommendations for the development of national electric cars in Indonesia.

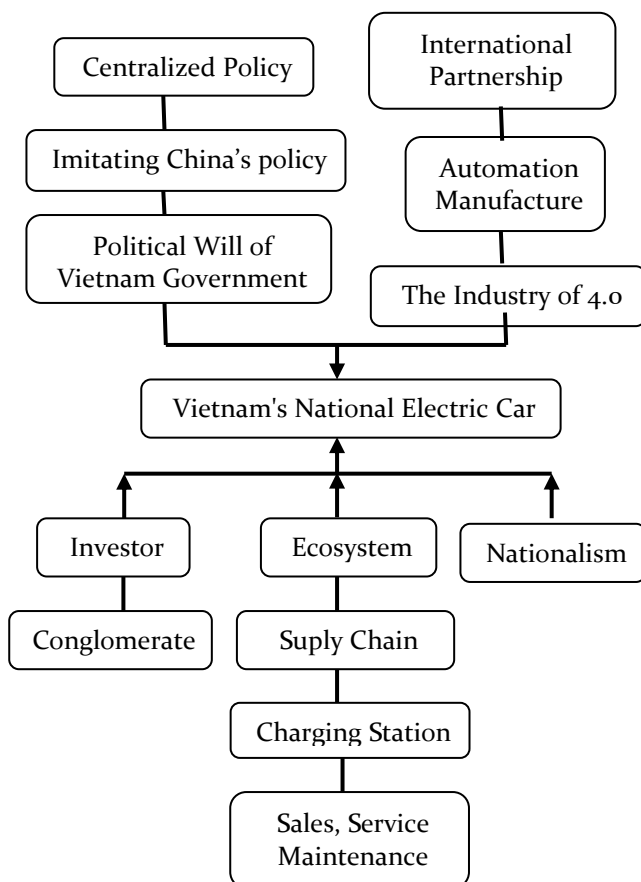


Figure 2. Vietnam's National Electric Car

To be the basis of the analysis, Indonesia is different from Vietnam. Vietnam is a socialist country with a single-party system. Although its political system still adheres to that system, its economic system tends to be open and tends to develop capitalism. The fun thing about Vietnam is that it has the same time as Indonesia, which is GMT+7. In addition, Indonesians will feel very rich because their currency is stronger than the Vietnamese Dong. One dong is worth 0.63 Rupiah. That's what the researcher feel, and feel proud as an Indonesian compared to when visiting Australia or the United Arab Emirates, or even just transiting in Kuala Lumpur or Singapore.

When setting foot in Vietnam, the first impression is, the obedience and submission of its citizens to the government. It feels the same as when visiting China. The nuances of socialism and communism are very real. the researcher think it's exciting because it's different from the majority of countries in the world that have implemented a democratic system. From an investment perspective, it makes citizens implement all government policies because anyone who opposes it will become an enemy of the state. The system will support political stability that encourages economic stability so that investment will be safer and business will run without much drama and disruptive dynamics.

Thus, it is certain, there is no need to ask about political will related to any policy. Including the national electric car policy in Vietnam, then automatically the political will of the Vietnamese government can be guaranteed. This is because the socialist government system tends to be one voice so that the electric car policy will automatically be supported and implemented by the government. The public will also obey and support the policy.

After conducting a search on various online media sites, or social media, the researcher actually came to the initial conclusion

that the national electric car policy in Vietnam imitates the national electric car policy in China. It is common knowledge that Vietnam and China are close, both politically, economically and historically. Although, sometimes the two countries are at odds in geopolitical and sovereignty matters, in fact and in fact, Vietnam and China are two countries that have very close relations.

China is now the king as a producer of electric cars. This is inseparable from the long process of developing electric cars in China that has begun since early 2001. It is also inseparable from when Wan Gang, a technician who once worked at Audi, Germany, was appointed by President Xi Jinping as Minister of Science and Technology. Since then, China has continued to pour in a lot of funds and investments, including subsidies and tax cuts.

And Vietnam wants to implement the concept that China once implemented. The difference is that China already has a national electric car brand. Meanwhile, Vietnam only had a national car brand, namely VinFast, in 2017. However, VinFast was immediately branded as a national electric car. That's what makes it different so that Vietnam focuses more on one product that directly gets government support.

The Vietnamese government has made Decree No. 876 / QD as of July 22, 2022 as a roadmap for net-zero emission transportation by 2050. The formula applied to realize clean energy is to strengthen international cooperation, development of science and technology and human resources. The policy includes supporting the transition to electric and environmentally friendly vehicles. The decision does not mention encouraging a national electric car brand, but in the 2022-2030 period, Vietnam will support the production of electric vehicles, and the second period, namely 2031-2050, all vehicles in Vietnam must be electric.

The more centralized Vietnamese government makes it easier when there is a central policy, then automatically the regions will implement it. That is what makes the derivative policies more effective and efficient. Policy 876 was passed down by the provinces and related ministries.

The policy was also passed down on a business scale. The Vietnamese government provides incentives and opens access for banking in the development of electric cars. This was done in order to provide security guarantees in doing business and investing in the electric car sector. Vietnam also encourages domestic electric car manufacturers to come to the fore, not just relying on foreign investors. In fact, the Vietnamese government is also encouraging their national car to appear on the global stage.

This shows that the Vietnamese government's policy is not only black and white. Still, it is realized and realized in the field. This policy also becomes the foundation for being passed down in smaller-scale policies and applications. The awareness of all elements of government from the center to the regions to implement the policy is also coordinated because of the centralized government system.

Long before Policy 876, the Vietnamese Government had made decision No. 116/2017/ND-CP which was issued on January 1, 2018. It was the Overseas Vehicle Type Approval (VTA) policy, namely checking the quality, safety and environmental protection for cars to be exported to Vietnam.

Previously, Vietnam had also made decision No. 116/2017/ND-CP. It was a decision to block car imports by requiring the automotive industry to meet the association and guarantee of warranty and maintenance. In addition, Vietnam also created a policy to support the national car policy with Decision No. 125/2017/ND-CP concerning the tightening of car imports.

It was a policy to protect Vietnam's national automotive industry. This support shows a bold and firm attitude by siding with the

national industry. Although the protectionist policy is a form of violation of AFTA (ASEAN Free Trade Area), it is a form of effort to support the national electric car policy implemented by Vingroup.

What about the Indonesian Government's policy? The Indonesian Government has issued Presidential Instruction (Inpres) No. 7 of 2022 concerning the Use of Battery-Based Electric Motor Vehicles (Battery Electric Vehicles) as official vehicles for the central and regional governments. The government has also issued Presidential Regulation No. 79 of 2023 concerning the acceleration of the battery-based motor vehicle program to accelerate the development of the electric motor vehicle ecosystem and support from the central and regional governments.

Then, the Coordinating Minister for Maritime Affairs and Investment Luhut Binsar Pandjaitan threw out the idea of producing a national electric car. However, the idea was to collaborate with a Chinese brand, Geely. The process is still under review with several campuses in Indonesia. It can be concluded that Indonesia does not yet have a roadmap for developing a national car.

Alhamdulillah *robbil alamin*, the researcher got the opportunity to visit Vietnam directly on May 14-17, 2024. The researcher got a direct invitation from VinFast. A name that is actually familiar to my ears. The researcher know VinFast is Vietnam's national car that entered the market in Indonesia. Yes, a car from Vietnam which is not known as an automotive industry country like Japan or Germany, but dares to have a national car industry. In fact, the name VinFast is now even more widely discussed compared to the national car Proton from Malaysia which for some reason is not too aggressive and late in producing electric cars.



Picture 1. the VinFast electric car factory in Vietnam

The interesting thing is when the researcher got the opportunity to visit the VinFast electric car factory in Vietnam. The VinFast electric car factory is located in Hai Phong. It takes about 120 minutes from Ha Long Bay. However, the researcher previously stayed overnight in Ha Long Bay which has natural beauty in the form of beaches and small islands like a small paradise on Earth. The road between Ha Long and Hai Phong is connected by a fairly wide road like a toll road and there is no traffic jam and density of vehicles. This is because both are not major cities like Hanoi which are still congested during rush hour.

The VinFast electric car factory is very large. It covers 355 hectares. It was built on a reclaimed bay. Not surprisingly, the atmosphere is very hot because it is near Cat Hai beach. However, the wind is very cool, typical of tropical beaches. Not surprisingly, my clothes were soaked with sweat when the researcher arrived in the area. However, the researcher like the smell of the sea that still covers the VinFast factory area. The factory was built for 21 months and has been fully operational in 2019.

In the area, there is not only an electric car factory. There is also an electric motorcycle factory. The researcher also visited the location of the electric motorcycle factory. However, the researcher am not too interested in the issue of electric motorcycles. The reason is, Indonesia

already has many electric motorcycle products produced domestically. Moreover, the researcher prefer the issue of electric cars because Indonesia does not yet have a national electric car like Vietnam.

When compared to electric car factories or conventional cars, there is nothing special about the VinFast electric car factory. However, what makes it special is that the factory is owned by a national electric car company by an ASEAN country and a developing country. Moreover, the factory was also built by a start-up company and received support from the largest conglomerate in Vietnam.

However, for a new automotive company, VinFast is very brave. VinFast invested heavily to establish an electric car. The researcher know, the risk is also very big because it has to compete with many large companies. However, VinFast has great confidence.

What amazes me is that the factory already uses sophisticated machines with the help of Artificial Intelligence. The factory is almost automatic in producing cars. Thus, human intervention is not dominant.

"Automation is the key here (VinFast factory) For example, in the welding workshop alone there are 1,200 robots with almost perfect excellence. The automation level reaches 98%." (VinFast Deputy CEO of Electric-Electronic, Stuart Taylor)

Technicians only guarantee that the operation of various machines can run well. This further emphasizes that automation is a form of quality assurance in the electric car industry. The minimal human power used shows the form of technological innovation in the future. The technicians who work in the factory are not only Vietnamese. However,

there are also technicians from India, to several Western countries.

The high-tech equipment used by VinFast comes from Germany, Spain, and Japan. Starting from the press shop to the body shop, there are 1,400 robots. With everything running automatically, it becomes the main supporter for realizing electric cars. This concept is indeed applied in various electric car companies.

So the production line for welding and painting can run automatically at a level of 90% - 95%. In the Body Shop, the car begins to take shape with extraordinary automation. The latest technology regulates the Paint Shop, followed by the Engine Shop, General Shop, Sub-Assembly Shop, and Electric Motor Shop. (Stuart Taylor)

With a factory that works automatically, the effectiveness and efficiency of car production will be achieved optimally. The factory is capable of producing 250,000 units of vehicles per year, with a maximum capacity of 300,000 units per year. In fact, VinFast has made the factory a production center for electric cars that will be sent to various parts of the world.

VinFast's courage in presenting an innovative factory is not only realized in Vietnam alone. VinFast will also invest by building factories, one of which is in Indonesia. The presence of the VinFast factory in Indonesia is an expansion effort by the company to reach the electric car market in Indonesia. It also shows the seriousness to compete with electric cars from China. In addition to Indonesia, VinFast is also building a factory in India to penetrate the car market in that country.

When traveling around Hanoi, the researcher found many electric car charging stations. In fact, some of these stations are located around densely populated housing. In some business centers, electric battery refueling

is also visible. That shows the unity of the electric car ecosystem that is solid and well-woven.



Figure 2. Vinfast's Electric Car Ecosystem

Support for electric cars is not only about modern and sophisticated factories, but the electric car ecosystem that is the main supporter. One of them is the availability of electric battery charging stations. The station is a form of support for the development and use of electric cars. Without it, it is very difficult for electric car users if they lack electric battery energy.

In addition, when visiting various shopping centers in Hanoi, there will be many dealers or electric car sales centers. Electric car exhibitions have also become a daily sight for Hanoi residents. That shows massive marketing to sell and introduce electric cars.

VinFast guarantees around 3,000 charging station points throughout Vietnam. On average, the distance between one charging station and another is around 3 kilometers. (VinFast Indonesia CEO Temmy Wiradjaja)

Actually, in my observation, electric cars that are widely sold and displayed in shopping centers are VinFast. This is inseparable because many shopping centers are owned by VinGroup, the parent company that also owns VinFast. Thus, upstream and

downstream support for electric cars in Vietnam remains controlled by one conglomerate, namely VinGroup. This makes it easier to handle because it is more of a business approach.

Another thing is public transportation that uses cars. The researcher tried using a taxi that uses an electric car. In fact, the electric cars used for taxis are different, depending on the class and fare. The better the car, the more expensive the fare. This shows that there is a difference in class for electric taxis.

However, again, taxis that use electric cars are within VinGroup. So, all electric cars used are VinFast. The use of electric cars for taxis is also an effort to promote that the quality of the electric cars is guaranteed. Later, the general public can enjoy and feel electric cars so that there is interest in having them.

Thus, the electric car ecosystem also comes from upstream and downstream. While upstream is more about supply chain and manufacturing, downstream is more about supporting the use and marketing of electric cars. Without solid ecosystem support, electric cars will experience obstacles.

Learning from Vietnam, the main thing to realize electric cars is to collaborate with major investors who want to produce national electric cars. Of course, it will be easier if the investors are domestic entrepreneurs. If we look at Vietnam, it will be easier to invite conglomerates to encourage investment in the electric car sector.

Efforts to collaborate with conglomerates are the most appropriate strategy for Vietnam. This strategy is more appropriate than collaborating with foreign investors. Why? Because, a national car is a project related to nationalism so prioritizing domestic investment has a long-term positive impact related to reputation.

The main advantage of relying on conglomerates to establish national cars is the capital factor. The electric car industry is known

to require a lot of capital, so very strong and solid investors are needed. In addition, the electric car industry is also classified as a risky business, so the support of conglomerates is needed which can also attract other investors to join the scheme or initiative.

By relying on large conglomerates, apart from having capital, they also have a business network that is already strong and solid. This is because they already have experience and trust in the international world. Global development will also be easier and more focused.

In addition, conglomerates, such as VinGroup, also have a wide range of business networks. They are engaged in various fields, such as property and other technology businesses. This will facilitate synergy so that they unite steps to realize Vietnam's national car.

No less important is the conglomerate's strong commitment to support the development of the success of the national electric car, not only on a national scale, but also expansion to various countries. The reason is, a country's brand will gain international recognition when it has expanded to other countries. VinFast also did this by selling its cars to the United States market and European countries.

VinFast's electric car is proof of Vietnam's manufacturing strength. It is a symbol of Southeast Asian innovation and a force ready to illuminate the global automotive landscape. The VinFast factory is not only the basis for Vietnam's automotive industry, but also the foundation for the development of VinFast's global ambitions. From the US and Canada, to closer markets such as Indonesia and Thailand, our electric vehicles are ready to conquer new markets. (Stuart Taylor)

By relying on conglomerates, it is not only the goal of presenting a national car used by Vietnamese citizens and dominating the market in the country. But, it doesn't stop there. The ambition to continue introducing Vietnam's national brand to various markets in the world is an interesting ambition. It is also a test case whether a brand that is the pride of a nation can also be accepted in other countries. In addition, global expansion is also intended to show the world that a brand is indeed equal to other brands. VinFast wants to have a brand that is equal to electric car brands in the world. That is why VinFast also sells its cars in the United States or in other countries.

To drive and make the national car a success, Vietnam mobilized all elements to support the national electric car. The results of my observations show how Vietnam drives it with nationalism and patriotism. This is inseparable from the fact that Vietnam is a socialist country so that the role of the state is dominant in driving many aspects, including the development of the national electric car.

The spirit of nationalism and patriotism is in accordance with the ideology and spirit of the Vietnamese people who are known in their history and struggle. This spirit also aims to trigger positive sentiment towards their local products. When a country's product cannot be accepted in its home country, it will be difficult for it to be accepted in other countries. That's what VinFast did.

The packaging of nationalism and patriotism was carried out through advertisements, press releases distributed in the media, and social media related to VinFast. This step was intended to convince the Vietnamese public to believe that Vietnamese-made products are also worth buying and are accountable. The existence of this sentiment is considered to be able to provide a strong perspective on a national brand. However, in my research, because the national electric car VinFast is a product of a conglomerate, it is also marketed together with

various VinGroup products. For example, there is an advertisement selling a house in the VinGroup property area, one of the additional bonuses is a free VinFast electric car. In addition, many VinFast car exhibitions are also held in shopping centers owned by VinGroup.

The researcher call that nationalism-driven conglomerate. It shows the uniqueness of Vietnam in developing a national electric car that combines capitalism as a business controller and nationalism with the spirit of citizens fully supported by the government. The researcher think that this can be effective and implemented in a socialist country. However, the conglomerate approach is an interesting issue because of the enggament between socialism and capitalism.

What lessons can be learned from the

national car innovation developed by VinFast? Although the differences between Indonesia and Vietnam are very prominent, efforts to develop a national model can learn from what VinFast has done. This learning is done in terms of developing policies and strategies that can be applied in Indonesia.

While Vietnam relies more on nationalism and protectionism policies to build a national electric car, Indonesia is developing a mutual cooperation mindset that can be applied in a joint movement. It can be applied at various levels from government, entrepreneurs, to society at large. Although the concept of mutual cooperation is known to be abstract, it has become the identity of the Indonesian nation. However, a driving force is needed to awaken the spirit of mutual cooperation.

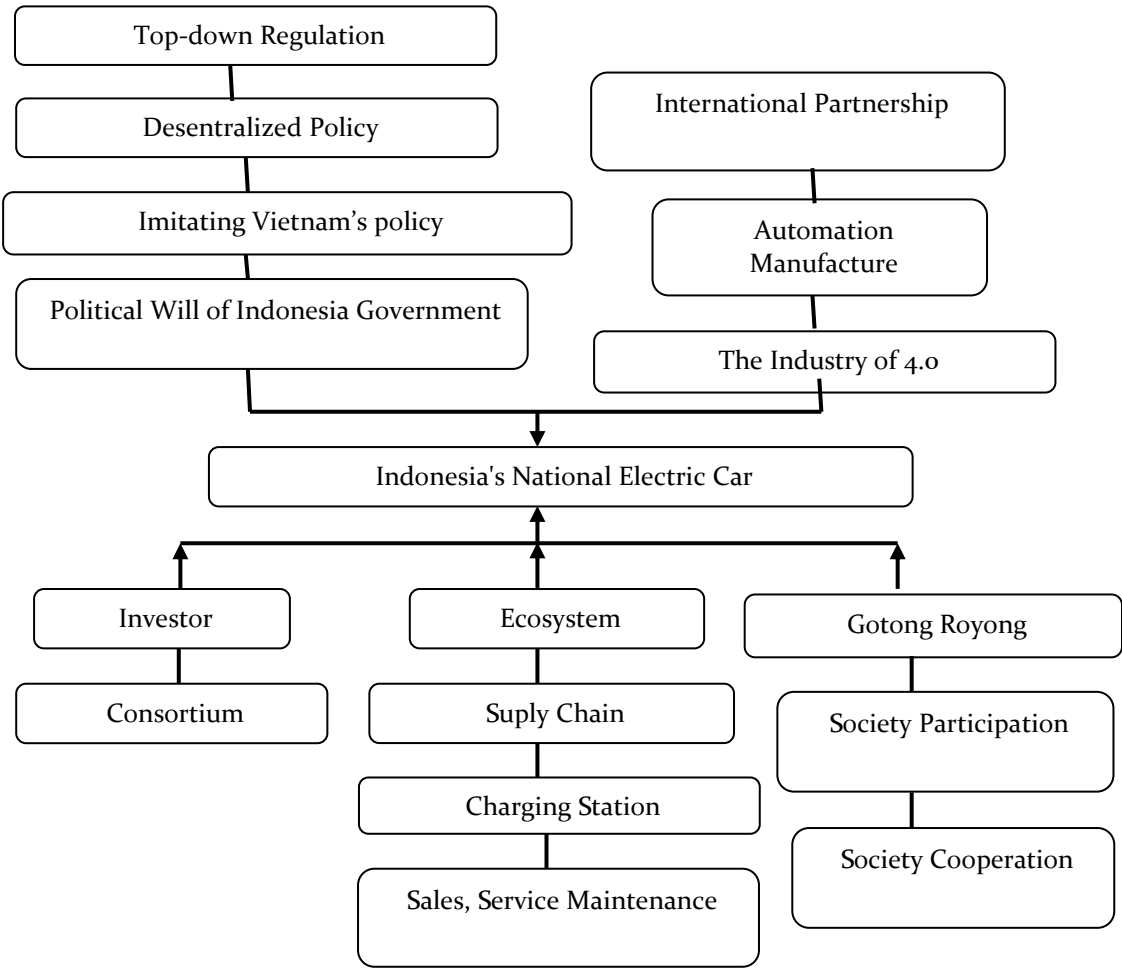


Figure 3. Indonesia 's National Electric Car

First, the preparation of a roadmap for a national electric car. Indonesia does not yet have a roadmap for the development of a national electric car. So far, Indonesia only has a roadmap for electric car products, not electric car development.

The Indonesian government only has a Roadmap for the Development of Battery-Based Electric Motor Vehicles in accordance with Presidential Regulation Number 55 of 2019. At the ministerial level, it is implemented in the Regulation of the Minister of Industry Number 27 of 2020 concerning Specifications, Development Roadmaps, and Provisions for Calculating the Level of Domestic Components of Domestic Motor Vehicles Battery-Based Electric Motor Vehicles and the Regulation of the Minister of Industry Number 28 of 2020 concerning Battery-Based Electric Motor Vehicles in Completely Disassembled and Incompletely Disassembled Conditions. However, these are only regulations that encourage the production of electric cars in Indonesia, not national electric cars.

In fact, the Regulation of the Minister of Industry Number 6 of 2022 also states that Indonesia has a roadmap for electric vehicle production with a target of 2035 where Indonesia can produce 1 million electric cars. At another ministerial level is the Regulation of the Minister of Energy and Mineral Resources No. 13/2020 concerning regulations for the provision of electric car charging station infrastructure. Regarding the definition and performance of electric cars, it is regulated by the Regulation of the Minister of Transportation No. 45/2020. In fact, the Regulation of the Minister of Home Affairs No. 8/2020 explains the regulation of electric motor vehicle taxes and supports investment in electric cars.

For this reason, efforts are needed to create a roadmap in the form of a presidential regulation that is passed down to ministerial regulations. Or if necessary, it is necessary to form a national electric car law that can be initiated by the House of Representatives or the government. The roadmap is actually used as a policy guideline to organize the steps for developing national electric cars to be more systematic and comprehensive.

This study proves the research on Indonesia's dependence on Japanese cars that are too protective in technology transfer (Gibran, 2024), a half-hearted program with cars from South Korea (Tenggara et al., 2021). However, the presence of many Chinese electric cars in Indonesia is also not a guarantee to support the transfer of the national electric car brand.

How can Indonesia develop electric cars? In policy development, Kusharsanto et al (2024) suggest coordination between local and central governments to prepare for adoption, in addition to incentives and infrastructure development. Don't let the state budget become a victim, the electric car policy has also reaped polemics because it erodes the state budget (Pambudi & Juwono, 2023).

For that, a very strong political will is needed from the government to create a comprehensive national car roadmap from upstream to downstream and its implementation in all sectors. The solution to support national cars made nationally is actually to involve many campuses that have developed electric cars. However, efforts to attract Chinese brands to produce national electric cars also need to be studied to get the positive and negative impacts.

For that, the government, academics, entrepreneurs, namely conglomerates, and the automotive industry must be invited together

to formulate a national car. It cannot be implemented by one party, for example the government alone, or even the industry alone. But it must be carried out by many parties to discuss and plan the best way to develop electric cars. With a foundation of mutual cooperation (*gotong royong*), the process will run slowly but surely compared to many gimmicks but tend to be just image building.

By taking the momentum of Indonesia Gold 2045, the researcher thinks it makes sense to develop a national electric car. With a time span of 21 years, the researcher think it is enough to mature the development of a solid national electric car. The reason is, the process of developing electric cars does take a long time so that in 2045 it will be the climax and peak where the national electric car where some of the electric cars used are national electric cars made by the nation's children.

The moment of 2045 as the peak of the demographic bonus is a hope for the revival of Indonesia, one of which is by presenting a national electric car. The demographic bonus is an effort to strengthen where many human resources are of productive age which makes hope where economic growth is predicted to strengthen. This moment can occur when many countries in Asia have experienced a slowdown in population growth, but Indonesia also gets a gift that must be utilized and pursued.

To achieve Indonesia Gold, since 2024 it has been solidified to realize the national electric car program, so Indonesia still has about 21 years of opportunity. In that long time, Indonesia can develop a comprehensive and solid process to unite the vision and mission and create real action to social movements. In that time span, it is the right time to carry out thorough planning, socialization, consolidation, real action, social

movements, to efforts to convince all groups that Indonesia can have a national electric car.

Moreover, many parties are taking part in the momentum of Indonesia Gold in 2045. However, they generally only play at the discourse level with minimal real action. When the national electric car can become a real action, then it becomes an advantage. Because, it will be a force that can be an encouragement because it involves many parties and can become a national symbol to trigger the revival of the national economy.

Second, constructing a model and strategy for building a national electric car factory. That is actually part of the national electric car roadmap. The development of the factory is based on Industry 4.0 with automation. To realize it, international networks are needed to support the program. And this is not difficult because Indonesia is the base for various electric car products from China, Korea and Japan.

If the VinFast electric car factory has fulfilled what is called industry 4.0 by prioritizing technological innovation to create new disruptive entries to the market (Alptekin et al., 2020). VinFast does show itself as an automobile company with a national industrial base in Vietnam with its own brand and conducting various industrial competitions (Nakajima et al., 2023). VinFast is a form of very rapid development of automotive industry policy in electric vehicles with policy support for both consumers and producers (Thoburn & Natsuda, 2023).

The problem is whether Indonesia should trust technology transfer from foreign countries? The reason is, it is the same as creating new competitors in the perspective of an established electric car brand. They will also be reluctant to cooperate because they do not want to create enemies for themselves.

A thorough study is needed, is it possible to build a national electric car factory by relying on the concept of cross-sectoral integration. This can be done by collaborating with various other companies. Because, the most important thing is the battery. Later, it will be a guide to how many percent of the components are produced nationally, and how many percent are imported components.

When Indonesia wants to develop an electric car ecosystem, as presented by Anshori et al (2024) that 76,562.5 electric fuel filling stations are needed to serve around 600,000 electric cars in 2030. In order to attract electric car investors, Indonesia must also provide ease of doing business, make government policies and conduct research and development (Suprobawati et al., 2021). No less important, as made known by (Indraprahasta (2015) is the need to develop car technology and improve the quality of human resources.

Third, strengthening the national electric car ecosystem. Actually, the ecosystem is very broad to support the realization of a national car. However, the discussion of the article is focused on a form of supporting infrastructure. The most important thing is the fuel filling station to the supply chain to support the national electric car. To realize this, the involvement of many parties is needed to support it.

As exposed by Liu et al. (2022) that Vietnam has a uniqueness in developing an electric car ecosystem, namely by having an Original Equipment Manufacturer, namely VinFast, which produces various models of electric cars in the country and is an important part of the success of the roadmap to support a domestic, context-specific e-mobility supply chain. To support the electric car ecosystem, as explained by Small (2022) in his research in Vietnam, an understanding of intersections is needed to support infrastructure networks by

involving many actors in transportation development.

Without ecosystem support, it is very impossible for a national electric car to be realized. Moreover, the ecosystem is related to upstream to downstream. Starting from the provision of primary materials to produce batteries, battery production, to a very complex manufacturing process. It also continues with the process of marketing electric cars, dealer cooperation, after-sales to the maintenance process also becomes very complex.

Fourth, build a consortium for national conglomerate. Why is the choice a consortium? Learning from Vietnam which relies more on one conglomerate, namely VinGroup, but if a joint consortium consisting of several large investors or conglomerates can be formed, it will make efforts to realize a national electric car.

The most emphasized thing is that the consortium is based on mutual consensus. The researcher am of the view that the formation of a consortium is a form of mutual cooperation. The reason is, the spirit of mutual cooperation is actually unity. Without having to question differences, but putting aside egos to produce a large consortium consisting of large investors from giant conglomerates, it will show a very solid consortium.

The presence of electric cars is also inseparable from the touch of conglomerates that have large capital and large networks. That's what Vietnam did. In developing countries, such as Vietnam, as noted by Beak et al. (2022) states that "the illiberal state elites governing developing countries in a liberalizing global economy" with examples of policies in the automotive sector are aligned with elites' interests. As uncovered by Schuler & Truong (2020) and Nakajima et al. (2023). that the largest conglomerates such as

VinGroup are key to the development of electric cars in Vietnam. As research conducted by Beng (2019) voiced that VinGroup has a larger market property so that it has an advantage in marketing its automotive products.

Unlike Vietnam which relies more on one large conglomerate, Indonesia can develop a consortium. Consortium is a solution because of the search for a compromise between the interests of the government and private investors by relying on profitability for investors and compensation for the government (Lavlinskii et al., 2023).

The conglomerate that could be targeted to be invited to establish a national car is the Djarum Group owned by the Hartono Brothers, which has developed an electric motorbike. In addition, the Astra Group conglomerate, which already controls many automotive brands in Indonesia, is also a party that must be invited to talk and discuss to work together. That does not rule out the possibility that the consortium could also attract more conglomerates to join.

The consortium could also be the main choice because it could later involve funding from state-owned banks. The role of banking is very large because it is not only a source of funding, but is also used to provide convenience in providing credit for electric car ownership. That way, the state will also take part in ownership so that it not only supports regulations, but also supports funding. Another option is a state-owned enterprise engaged in technology such as PINDAD, which is already able to produce its own car, namely Maung, can also be asked to cooperate.

The need for a consortium is inseparable from showing the efforts of mutual

cooperation in building a national car to show the togetherness of the nation's children. Unlike Vietnam which relies more on one conglomerate, but with a consortium there are many parties involved so that it mobilizes the energy of all the nation's children. It is hoped that later, it will have a real impact on the development of the national car so that it becomes the pride of the Indonesian nation.

Many parties may argue that if a consortium is formed it will face many obstacles, differences of opinion and conflicts of interest. Moreover, a consortium business is more prone to conflict. However, a consortium based on and backed by mutual cooperation is expected to form a strong bond because of the role of the state, through state-owned enterprises.

A consortium is needed because to make a national electric car requires efforts to support the business from upstream to downstream. Indonesia, with its vast territory, plus a very large population, unlike Vietnam which is only one land, actually needs many investors to take part. by involving many parties will create a new entity that emerges by presenting a new brand. Later, the national electric car brand will belong to the entire nation because many parties are involved in it.

Fifth, mutual cooperation to support the national car. Mutual cooperation is the spirit in the lives of the Indonesian people. It can be the strength of the Indonesian nation. The researcher think that mutual cooperation will be the difference between Indonesia and other countries. Mutual cooperation has the same strength as nationalism which is Vietnam's mainstay in developing electric cars.

Nationalism is Vietnam's way of raising the spirit of its people to buy electric car products. Like the studies conducted by Tran et al. (2023), Minh (2020), and Beak et al.

(2022), that nationalism is a way to attract citizens to build a desire to buy electric cars. Economic nationalism is also the basis and motivation for the development of the automotive industry in Vietnam (Nakajima et al, 2023).

Why should gotong royong be implemented in Indonesia like nationalism in Vietnam? The researcher agree with Slikkerveer (2019, p. 307) who believed gotong royong as "Mutual assistance, however, is usually based on the principle of individual reciprocity, whether it is on the initiative of the citizens, or imposed as an expression of mutual cooperation by relying on Integrated Community-Managed Development (ICMD)." Gotong royong is also a custom that is an original wealth of Indonesia (Dewantara & Budimasyah, 2018).

The researcher see *gotong royong* as an advantage of the Indonesian nation to be able to unite support to realize a national electric car. Mutual cooperation is not just a perspective or way of thinking, but it is a real action in the form of actions and movements. Indonesia has also realized this in various real examples.

How to realize mutual cooperation? All elements of society in Indonesia participate in mutual cooperation to support the national electric car. Of course, it is realized starting with sympathy and ending with ownership. It is not only a form of nationalism, but an effort to show that society is part of the process of the presence of a national car.

Mutual cooperation can also be realized when the national electric car already exists, then it becomes a mandatory vehicle for state civil servants (ASN). Officials can use the national electric car, not only for image, but also for daily operations.

The most important thing is to build the role model. All leaders in all aspects of

government also use electric cars. When leaders can be emulated, then the public will understand and know that there is no gimmick or image for political interests alone.

The government must create a policy that requires some official cars to be replaced with national electric cars. The policy is implemented at various levels from ministries, provincial governments to district provinces to the level of apparatus in rural areas. Thus, the absorption of national cars can be maximized and can be used at all levels.

The private sector must also be invited to take part in supporting national electric cars. Moreover, the number of private sectors in Indonesia is very large. Private companies are also willing to replace their conventional cars with national electric cars. This is none other than to increase the number of electric car sales.

Moreover, the Indonesian government can also provide various facilities for consumers to be able to own a national electric car. For example, banks that provide more flexible credit, people from all economical segments can also use the national electric car. As a study conducted by Dirgahayani et al. (2020) that, it is necessary to make integration possible and incentivize consumers to use electric cars for daily basis.

Presenting a national electric car that has various types from premium to standard class makes all groups able to have it. It is all an effort to realize a national electric car as a national movement. This study has the same opinion as the study that has been carried out where efforts to present a national car are also adjusted to the needs and desires of the community in choosing a car where they prefer Multi Purpose Vehicle (MPV) type cars (Wijaya et al, 2018). So that later, the national electric cars produced will also be more MPV types to adjust to market needs in Indonesia.

CONCLUSION

The original electric car brand owned by a country will be a source of pride and prestige for the nation on the global stage. To realize this, a comprehensive and measurable strategy is needed. Moreover, like Indonesia, which does not have a proven and tough national car brand.

To realize a national electric car, the first and foremost is to encourage the political will of the Indonesian government through various policies, both presidential regulations and laws. Policies are not only at the central government level, but are also continued in ministerial regulations and gubernatorial regulations to regents and mayors. This aims to create a sequence that shows synergy from top to bottom.

The next step is an effort to build a national electric car factory based on Industry 4.0, focus on an automation. This is also supported by presenting an ecosystem from upstream to downstream so that electric cars can be realized. To support all of this, efforts are made to form a consortium consisting not only of conglomerates, but also of state-owned enterprises, all elements of the state that want to contribute. This is a form of mutual cooperation. Later, *gotong royong* (mutual cooperation) to make the national electric car a success by involving the general public at large.

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