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EXPLORING THE PURCHASE INTENTIONS AND PERCEPTIONS OF GENERATION Z TOWARDS ELECTRIC VEHICLES IN JAKARTA

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ABSTRACT
This research aimed to explore the factors contributing to purchase intent towards electric vehicles (EVs) among Generation Z in Jakarta and their perceptions of electric vehicle marketing efforts from manufacturers and government programs. The study aimed to provide recommendations for manufacturers and the government to promote EVs through open-ended qualitative questionnaires, sentiment analysis from Twitter, and quantitative structural equation modelling. The open-ended qualitative questionnaire provided insights into Generation Z's purchase intention towards EVs, their knowledge and concern for environmental issues related to EVs, and their perceptions of marketing efforts from manufacturers and government programs. The sentiment analysis from Twitter revealed ositive sentiment towards electric cars, electric motorcycles, Hyundai Ioniq 5, and Wuling Air EVs. The quantitative structural equation modelling revealed that personal norms were a significant predictor of purchase intention, with a significant relationship between personal norms and environmental concern and peer effect. However, the relationship between environmental concern and peer effect on purchase intention was insignificant. Personal norms are a crucial factor in determining Generation Z's purchase intention of electric vehicles in Jakarta, and environmental concerns and peer effects have no significant effect. While Generation Z has a positive outlook on EVs, manufacturers, governments, and society need to do more to promote their adoption. Manufacturers should focus educating consumers about the benefits of electric vehicles, and governments should provide incentives to encourage their use. Further research is needed to investigate other factors influencing purchase intent, such as consumer knowledge and attitudes towards electric vehicles.

Keywords: electric vehicles, generation z, purchase intention, marketing efforts, government programs, personal norms.

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INTRODUCTION

Despite its widespread use and practical benefits, traditional fossil-based transportation is a significant source of harmful pollution, particularly in densely populated urban areas. Pollution, health problems, and traffic jams result from an unsustainable focus on expanding fossil fuel-based transportation at the expense of regular environmental upkeep (Skovgaard et al., 2023). In addition to hurting the environment, fossil fuels are also a limited resource. Many nations have accelerated the development of electric vehicles to lessen their reliance on oil and their environmental impact (Sun et al., 2019).

Council on Foreign Relations (2022) wrote that political leaders worldwide have committed to working together to reduce global warming for decades. Despite increased diplomatic efforts, the world is already feeling the effects of climate change, and things are only going to grow worse. The level of carbon dioxide in the atmosphere continues to climb, heating the Earth at an alarming rate,

despite countries' agreements to decrease greenhouse gas emissions under the Kyoto Protocol and the Paris Agreement. Scientists have warned that if global warming continues unchecked, it could cause environmental catastrophe throughout most of the globe, including unprecedented sea-level rise, record-breaking droughts and floods, and the extinction of many species. As part of the yearly UN climate conferences, also known as COPs, many countries have increased their climate obligations since the Paris Accord was signed in 2015. After the 2021 meeting, governments pledged to bring even greater ambition to the COP27 conference the following year in Egypt. Scientists warn that present pledges are insufficient to prevent catastrophic warming or adapt to its repercussions.

Regarding climate change, several Asian countries are on the front lines. Research reported that ninety-three of the 100 most polluted cities in Asia and six of the top ten countries most vulnerable to climate hazards are in Asia (Silva et al., 2013). High energy demand is a problem in the region because many countries are quickly developing and urbanising. China's energy consumption is more than three times that of Europe, making it more difficult for the country to achieve its goal of net zero consumption. Transportation accounts for a sizable portion of Asia's total GHG emissions, so improvements in this area will be crucial in the fight against climate change. This industry can contribute 14% of emission abatement between 2018 and 2050.

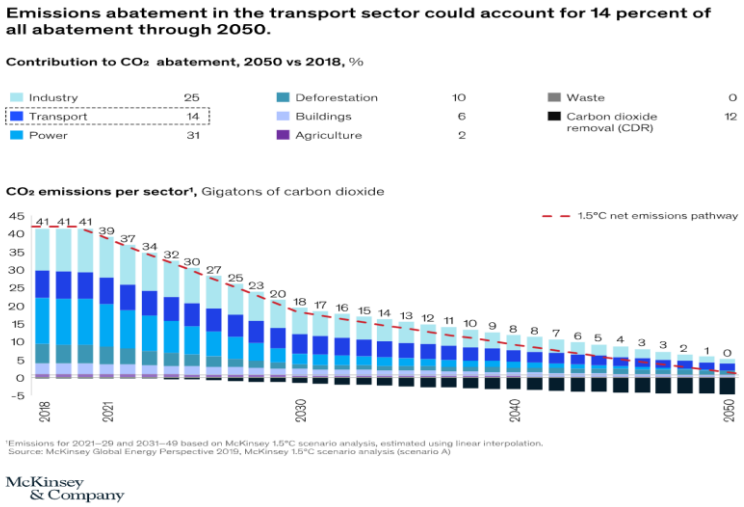


Figure 1. Emission Abatement Potential (McKinsey, 2022)

The emissions of greenhouse gases (GHG) are also the unwanted by-product usually associated with fossil fuel burnings for energy needs. The severity of climate change due to GHG emissions has become threatening. Immediate preventive actions and climate policies are needed to slow the worsening climate change impacts. Electric vehicles (EVs) could solve the environmental problem, improve fuel economy, and enhance vehicle driving range due to the use of highly efficient electric motors (Yong et al., 2015)

As reported by S&P Global Market Intelligence (2021), global sales of electric vehicles are expected to rise. In 2025, the number will rise to 58.68 million (Hering, 2021). That year, there will be 13.1 million EV sales worldwide. Compared to the previous year, when sales were just 11.31 million units, this year's rise is 15.83%. As of August 2021, global sales of electric vehicles had reached 6.2 million. Compared to last year's total of only 3.06 million units, this year's surge is 102.61 per cent. By 2025, the percentage of the annual auto market held by electric vehicles is expected to rise

above 15%. Sales to the European Union account for 37% of total sales. The Chinese market for electric vehicles is 20%, by the way.

On the other hand, the U.S. market for electric cars has reached 10%. According to Alice Yu, senior research analyst at Market Intelligence, the rise in the worldwide adoption of electric vehicles has been spurred by government policies offering financial incentives to buyers. The number of available electric vehicle models has also increased because of government initiatives to lessen dependence on fossil fuels.

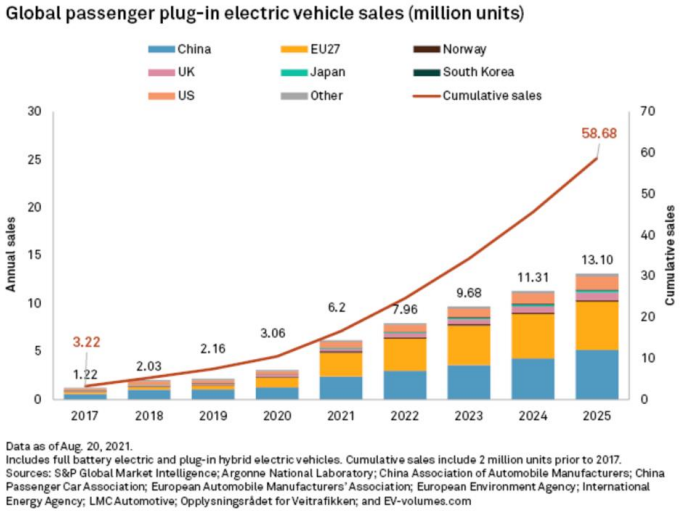


Figure 2. Global Passenger Plug-in Electric Vehicle Sales (S&P Global, 2021)

Indonesia's Government wants to produce 400 thousand electric vehicles by 2025 and 5.7 million by 2035. Jakarta and Bali are ideal places to evaluate EVs as a means of mass transportation. The Government has issued several regulations in preparation for this. Indonesia's oil and gas industry can take advantage of investment incentives offered by the Government. The process of having their vehicles tested will be simplified, and they will have easier access to resources for registering their businesses. Hyundai and LG Energy will each invest about $600 million in an electric vehicle battery factory (BKPM, 2022).

According to CNBC.com (2022), 3,781 electric vehicles were sold in Indonesia in September, surpassing the previous record established in 2022 by 1,019 vehicles. This number is nearly four times more than the previous month's 302 units. Wuling Air EV is predicted to be the sales booster. The Association of Indonesian Automotive Industries (Gaikindo) said 1,887 units were sold wholesale (from the factory to dealers). At 1,325 units, the Long-Range model of Wuling Air EV is the company's best-seller. To fulfil the demand for charging electric batteries later, the objective is to develop a Public Electric Vehicle Charging Station (SPKLU) in 2021, which will be 527 units and climb to 31,859 units in 2030. There are plans to raise the number of General Electric Vehicle Battery Exchange Station (SPBKLU) units from 3,000 in 2021 to 67,000 by 2030.

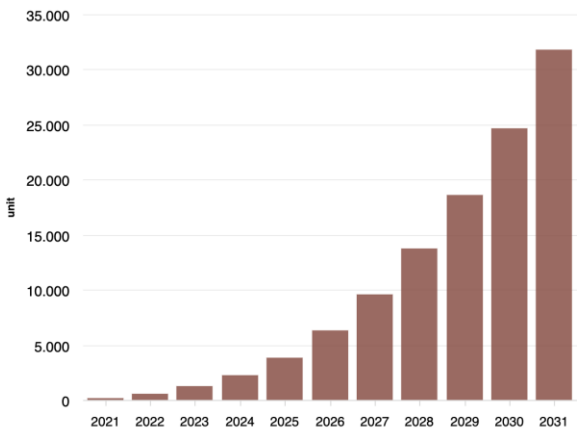


Figure 3. Indonesia SPKLU Development Projection of 2031 (Katadata, 2022)

However, the societal benefits of EVs come at a high cost to the EV owner regarding the purchase price, range, availability, cargo capacity, top speed, and acceleration (Gärling & Thøgersen, 2001). The inability to charge an EV when needed also limits its utility. A product like this does not exactly sell itself, especially for Generation Z.

According to the Center for Advanced Study in the Behavioral Sciences (CASBS) of Stanford University, the members of Generation Z, also known as iGen or post-millennials, are a cooperative group who have a strong sense of altruism and have a practical perspective on how to address the myriad issues their older generation has left them with, such as climate change. They developed an early facility with powerful digital tools that allowed them to be self-reliant as well as collaborative. They also gained a greater understanding of diversity and the significance of developing their own distinct identities because they could learn about people and cultures from around the world at a young age (Witte, 2022).

The Indonesian Central Statistics Agency (Badan Pusat Statistik) published the results of the 2020 Population Census at the end of January, giving us a snapshot of Indonesia's evolving demographics since the last census was taken in 2010. Many organizations have predicted and analyzed that Indonesia is currently experiencing a period known as the Demographic Bonus. Interestingly, 27.94 per cent of Indonesia's population in the census is part of Generation Z, or those born between 1997 and 2012, as shown in Figure 1. Predictions about the Millennial Generation's role in shaping the future of society place them just behind Generation Z, who make up 25.87 per cent of Indonesia's population (Rakhmah, 2021). Consequently, the presence of Generation Z is crucial to the present and future of Indonesia's progress.

According to a statistic shared by the DKI Provincial Government on their official Instagram, millennials (those born between 1981 and 1996) make up the largest demographic in Jakarta, and 26.78 per cent of the population is under the age of 30. Gen Z, born between 1997 and 2021, comprise the city's second-largest cohort of residents. Meanwhile, 25.65 per cent of residents are members of Generation Z. Then, 23.64 per cent of people in Jakarta identified as Generation X. Only 11.25 per cent of Jakarta's population belongs to Post Gen Z (those born in or after 2021). Baby boomers, or locals born between 1946 and 1964, made up only 11.09 per cent of the population.

Pre-boomers, or people born before 1945, make up a tiny fraction of Jakarta's populace, at only 1.32 per cent (Tamara Then, 2021).

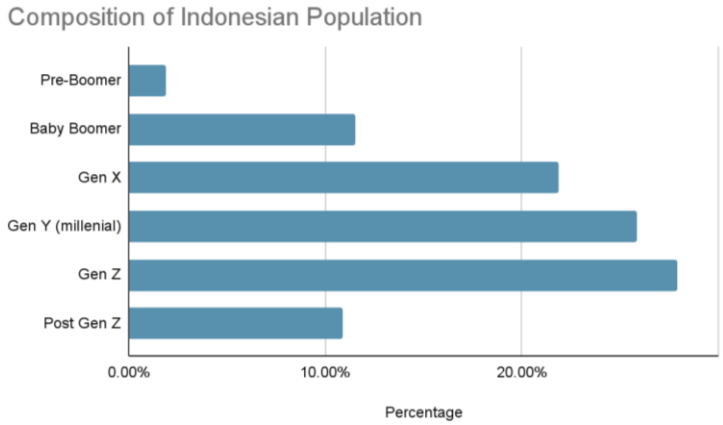


Figure 4. Composition of Indonesian Population (BPS, 2021)

Understanding Indonesia Gen Z's purchase intent towards EVs is required to form the right marketing strategy. This research uses the S-O-R framework or Stimulus-Organism-Response by Mehrabain and Russell (1974) (Skovgaard et al., 2023), as shown in Figure 2 (Ma, 2014), to find the contributing stimuli (Arif et al., 2020). The framework's goal is to understand better how everyone's unique reactions to external stimuli contribute to developing either positive or negative habits regarding purchasing intent. The author will also conduct qualitative analysis from the open-ended surveys and social media sentiment from Twitter to get business insights for electric vehicle manufacturers and Government.

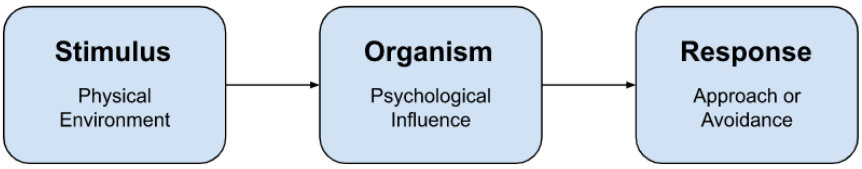


Figure 5. Stimulus Organism Response (SOR) framework

The market for electric vehicles is one of the most vibrant in the clean energy sector. According to International Energy Agency (iea.org, 2022), the number of EVs sold in 2021 reached a new high of 6.6 million, more than double the previous year's total. As recently as 2012, only 120,000 electric vehicles were sold globally. In 2021, weekly sales will average over 100% higher than that. In 2021, electric cars will account for nearly 10% of worldwide sales, up from 2% in 2019. This tripled the number of electric vehicles worldwide from 2018 levels, bringing the total to roughly 16.5 million. In the first quarter of 2022, 2 million electric vehicles were sold worldwide, a 75% increase from the same period in 2021. Multiple forces are contributing to the growth of the EV market. The primary tenet is consistent policy backing. In 2021, government investment in electric vehicle subsidies and incentives doubled, reaching over USD 30 billion. A rising number of nations have either committed to eliminating the use of internal combustion engines or set lofty goals for the electrification their transportation fleets over the next few decades.

Meanwhile, many automakers have ambitious plans to electrify their fleets, far exceeding legislative targets. Finally, in 2021, there were five times as many new EV models available as in 2015, increasing their appeal to buyers. The current market offers about 450 different electric vehicle models.

In order to seize the decarbonization opportunity, global governments have instituted lofty targets for Evs (Vilas, 2021). The EU's Fit for 55 plan aims to reach carbon neutrality by 2050. The US government under Biden has set a goal of having 50% of all new cars sold in 2030 be electric vehicles. In keeping with these objectives, we may expect EV adoption to reach 45% by 2030 under the current predicted regulatory targets. Battery electric vehicles, plug-in hybrids, and fuel cell vehicles are all accounted for in this forecast (FCEVs). Consumers in various Asian nations are adopting EVs at varying rates. Emerging Asia, led by India and the Association of Southeast Asian Nations (ASEAN), lags established markets like China and Japan. In other words, EVs only accounted for about 1% of all new car sales in the area in 2021.

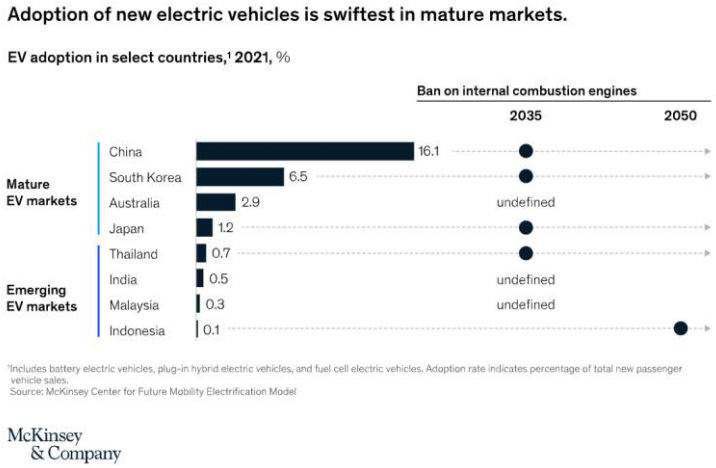


Figure 6. Adoption of New Electric Vehicles in Selected Asian Countries (McKinsey, 2022)

As a result of government efforts to attract foreign investment and promote green growth, electric vehicle manufacturing in Indonesia is quickly becoming a vital sector of the country's economy (Sarmiento, 2022). However, from 2021 data, the adoption of electric vehicles in Indonesia is still low (Shofa, 2022). Generation Z, the dominant group in the latest 2020 census, 27.94 per cent of Indonesia's population, definitely play an essential role in the future planning of electric vehicle (EV) adoption in Indonesia (Rakhmah, 2021). This research aims to understand Generation Z's purchase intent towards electric vehicles (EV) in the Jakarta area using quantitative methods, such as structural equation modelling, to analyze the data collected from the survey in order to identify the key factors that influence purchase intention among Generation Z and explore how these factors are interconnected. This research will provide valuable insights into the decision-making process of Generation Z and how to influence their purchase intentions.

Additionally, this research aims to investigate the perception of Generation Z towards electric vehicle marketing and government efforts and identify improvement areas. This will involve conducting an open-ended qualitative questionnaire to gather insights from Generation Z on their perceptions of electric vehicle marketing from manufacturers and government initiatives and their suggestions for how these organizations can improve their efforts to promote electric vehicles

among this demographic group. The research will provide valuable insights for manufacturers and government organizations to develop more effective strategies and programs that resonate with Generation Z.

METHOD

A research design is a plan or framework for conducting a study. The study would aim to understand the relationship between environmental concern, peer effect, personal norms, and purchase intention among this demographic.

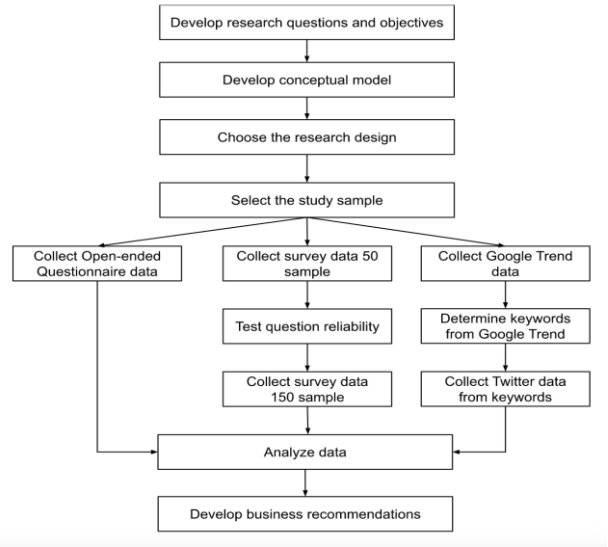


Figure 7. Research Design

The researcher uses a mixed method to conduct the study: qualitative with an open-ended questionnaire, social media sentiment, and quantitative with an online survey. Qualitative research is valuable for understanding complex social phenomena and gaining insight into people's experiences, perceptions, and perspectives. There are many approaches to qualitative research, including case studies, ethnography, narrative analysis, and grounded theory (Creswell & Poth, 2016). These approaches involve collecting data through interviews, focus groups, observations, and document analysis and analyzing that data using techniques such as coding, memoing, and conceptualization (Denzin & Lincoln, 2011). One of the strengths of qualitative research is that it allows for the in-depth exploration of complex, multifaceted issues. It allows researchers to capture the richness and complexity of people's experiences and to understand the meaning that people attribute to those experiences (Miles & Huberman, 1994). Qualitative research can also be used to generate new insights and theories and validate or challenge existing theories (Creswell & Poth, 2016).

RESULTS AND DISCUSSION

Structural Equation Modeling (SEM)

Next, the analysis would be Structural Equation Modelling (SEM). In this case, the structural model would examine the relationship between Environmental Concern and Peer effect (Stimulus), Personal Norm (Organism), and Purchase Intention (Response). The researcher analyzed the data

using JASP with on Lavaan syntax model from Yves Rosseel (Rosseel, 2021), with modifications to show how each variable correlated.

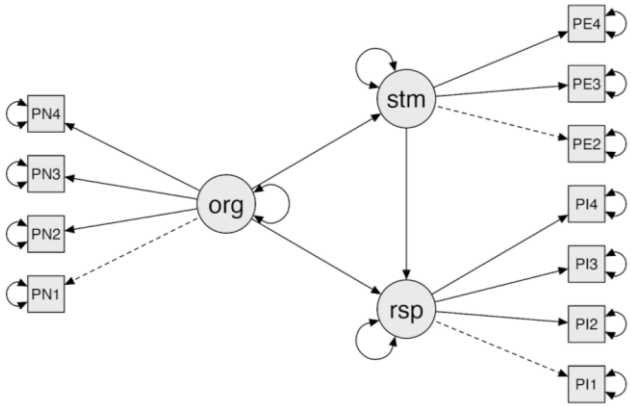


Figure 8. SEM Model

 # measurement model

response =~ PI1+PI2+PI3+PI4

stimulus =~ EC1+EC2+EC3+EC4+PE1+PE2+PE3+PE4

organism =~ PN1+PN2+PN3+PN4

 # regressions

stimulus ~ organism

response ~ stimulus + organism

Table 1. Model Fit Analysis 3 Comparison

Trials	AIC	BIC	n	Baseline test χ^2	df	p
First	8070.853	8239.068	200	285.397	101	< .001
Second	7044.652	7193.076	200	181.404	74	< .001
Third	6595.615	6734.144	200	140.627	62	< .001

A test showed decreased numbers in the model fit with chi-square, df and p-value, which means the constructs are now better suited to the model. The P-value remains the same.

Table 2. Fit Indices 3 Comparison

Index	Value		
	First	Second	Third
Comparative Fit Index (CFI)	0.854	0.908	0.93
Tucker-Lewis Index (TLI)	0.827	0.887	0.912
Bentler-Bonett Non-normed Fit Index (NNFI)	0.827	0.887	0.912
Bentler-Bonett Normed Fit Index (NFI)	0.794	0.856	0.883
Parsimony Normed Fit Index (PNFI)	0.668	0.696	0.702
Bollen's Relative Fit Index (RFI)	0.755	0.824	0.852
Bollen's Incremental Fit Index (IFI)	0.856	0.910	0.931
Relative Noncentrality Index (RNI)	0.854	0.908	0.93

The fit indices for the CFI, TLI, NNFI, IFI and RNI are all above 0.90, indicating a fit. The third trial has more fit indices than the first and second trials.

Table 3. Other Fit Measures 3 Comparison

Metric	Value		
	First	Second	Third
Root means the square error of approximation (RMSEA)	0.096	0.085	0.08
RMSEA 90% CI lower bound	0.083	0.07	0.062
RMSEA 90% CI upper bound	0.109	0.101	0.097
RMSEA p-value	2.551×10^{-8}	2.054×10-4	0.004
Standardized root means square residual (SRMR)	0.068	0.058	0.051
Hoelter's critical N (α = .05)	88.919	105.829	116.74
Hoelter's critical N (α = .01)	96.986	116.987	130.138
The goodness of fit index (GFI)	0.989	0.991	0.992
McDonald's fit index (MFI)	0.631	0.765	0.822
Expected cross-validation index (ECVI)	1.937	1.357	1.123

We have 0.08 RMSEA, a good fit for the model and a good score for GFI.

Table 4. Factor Loadings 3 Comparison

			Standardized	
Latent	**Indicator**	**First**	**Second**	**Third**
Organism	PN1	0.632	0.635	0.637
	PN2	0.812	0.812	0.812
	PN3	0.841	0.839	0.837
	PN4	0.835	0.835	0.836
Response	PI1	0.840	0.839	0.84
	PI2	0.728	0.726	0.725
	PI3	0.690	0.693	0.693
	PI4	0.766	0.767	0.766
Stimulus	EC1	0.312		
	EC2	0.454	0.392	
	EC3	0.433	0.428	0.415
	EC4	0.065		
	PE1	0.442	0.432	0.421
	PE2	0.428	0.435	0.438
	PE3	0.606	0.619	0.629
	PE4	0.734	0.778	0.802

All factor loading scores are above 0.4, indicating a model fit. So after eliminating EC1, EC2, and EC4, the model fit scores are generally improved.

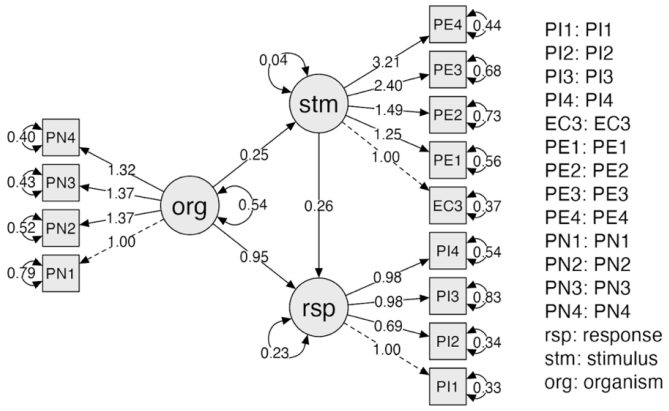


Figure 9. SEM Model After Modifications

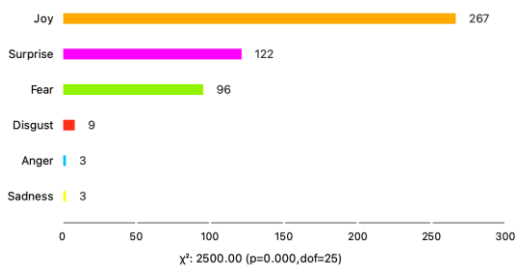
Open-Ended Questionnaire Analysis

From the analysis, we can conclude based on the objectives:

1. Objective 1: Insights of Generation Z's purchase intention towards electric vehicles: They expressed interest in buying an electric vehicle because it was cost-effective and environmentally friendly. What attracted them were the features, spare battery, ease of charging, and charging stations in many places. Range, safety and price were also mentioned.
2. Objective 2: Insights of Generation Z knowledge and concern for environmental issues related to electric vehicles: They knew that EVs and cars that run on fossil fuels pollute in different ways. Additionally, unlike the carbon emission from fossil-fueled vehicles, EVs are more environmentally friendly and help the environment because EVs reduce pollution. However, in a scenario where they owned an EV, Generation Z was still interested in purchasing a fossil-fuel-powered vehicle. The reason was that they needed more confidence in the EV range, charging stations, spare parts and services.
3. Objective 3: Insights of Generation Z's perception towards electric vehicle marketing efforts from manufacturers and how to improve them: They saw that the current marketing promotions from EV manufacturers are not attractive enough. The reason was that people needed to be made aware of EVs because there needed to be more advertising and promotion programs. However, a significant number also stated that the marketing was interesting enough. In terms of marketing ideas, most of them want price discounts. Other factors are also mentioned, such as: working with Government for a subsidy, attractive advertisement, and ease of charging by building the infrastructure.
4. Objective 4: Insights of Generation Z's perception towards electric vehicle programs and socialization efforts from the Government and how to improve them: They expressed that government programs and socialization efforts to introduce EVs were not enough. This is because EVs are still not widely promoted, the price is still high, and there is little supporting infrastructure. They suggested giving subsidized programs, price discounts and promotions, building infrastructures, and more charging stations to improve the efforts.
5. Objective 5: Insights of popular electric vehicle brands according to Generation Z: Wuling dominated the car category, followed closely by Hyundai and Tesla. Viar dominated the motorcycle category.

Sentiment Analysis

Table 5. Sentiment Analysis for “mobil listrik”

Keywords: "mobil listrik."
Emotion Profiling


Sentiment Analysis
The sentiment analysis data indicates that most of the tweets (267 out of 500) containing the keyword "mobil listrik" or "electric car" express joy. There is also a significant amount of surprise expressed in the tweets (122 out of 500). A smaller percentage of tweets express fear (96 out of 500), and a very small percentage express disgust (9 out of 500) and anger (3 out of 500), or sadness (3 out of 500). **Overall, the sentiment towards electric cars on Twitter is positive**.

Table 6. Sentiment Analysis for "motor listrik."

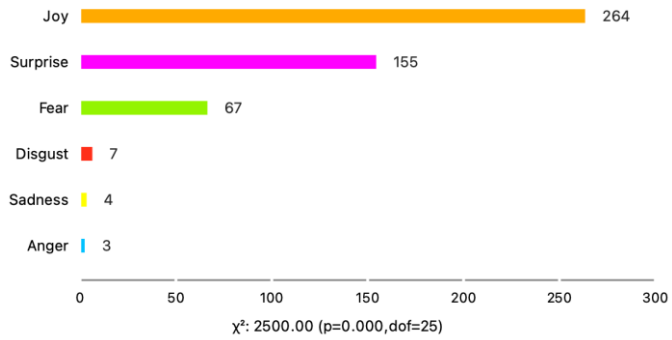
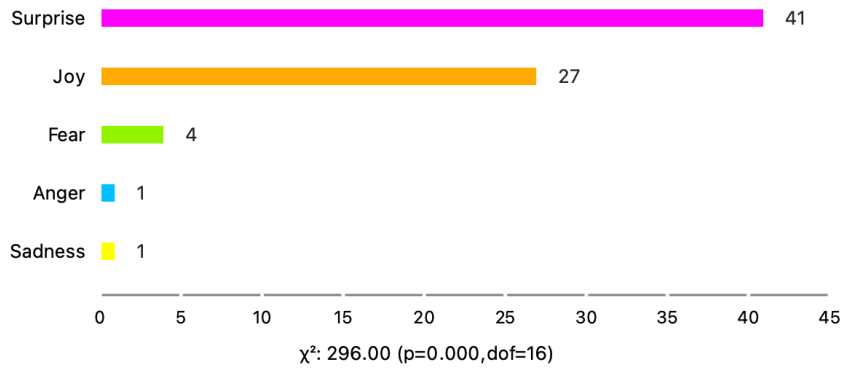
Keywords: "motor listrik."
Emotion Profiling

Sentiment Analysis
The sentiment analysis data indicates that most of the tweets (264 out of 500) containing the keyword "electric motorcycle" express joy. There is also a significant amount of surprise expressed in the tweets (155 out of 500). A smaller percentage of tweets express fear (67 out of 500), and a very small percentage express disgust (7 out of 500), anger (4 out of 500) or sadness (3 out of 500). **Overall, the sentiment towards electric motorcycles on Twitter is positive.** However, the surprise expressed in tweets is higher than the joy, which might indicate that people are still not aware of the full capabilities of electric motorcycles, and the technology behind it is still new to them.

Table 7. Sentiment Analysis for “hyundai ioniq 5”

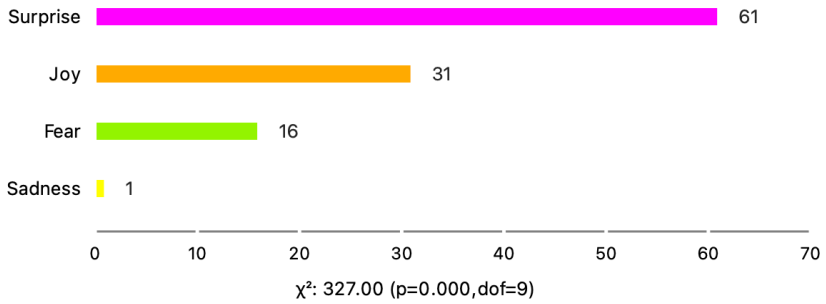
Keywords: “hyundai ioniq 5”
Emotion Profiling

Sentiment Analysis
The sentiment analysis data indicates that most of the tweets (41 out of 74) containing the keyword "Hyundai ioniq 5" express surprise. There is also a significant amount of joy expressed in the tweets (27 out of 74). A smaller percentage of tweets express fear (4 out of 74) and a very small percentage express anger (1 out of

74) or sadness (1 out of 74). Overall, the sentiment towards Hyundai Ioniq 5 on Twitter is positive, with a lot of surprise and joy being expressed in the tweets. However, the sample size is small, so the result may not represent the overall sentiment towards the Hyundai Ioniq 5 on Twitter.

Table 8. Sentiment Analysis for "wuling air EV"

Keywords: "wuling air EV."

Emotion Profiling



Sentiment Analysis

The sentiment analysis data indicates that most of the tweets (61 out of 109) containing the keyword "wuling air EV" express surprise. There is also a significant amount of joy expressed in the tweets (31 out of 109). A smaller percentage of tweets express fear (16 out of 109), and a small percentage express sadness (1 out of 109). **Overall, the sentiment towards Wuling Air EV on Twitter is positive,** with a lot of surprise and joy being expressed in the tweets. The big surprise may indicate that people are unfamiliar with this specific EV and are surprised about its features or capabilities. The relatively high number of fear tweets may indicate that people have concerns about the reliability and durability of this EV or the safety of electric vehicles in general.

We can summarize the dominant emotion on each keyword from the sentiment analysis. Two keywords were excluded from this analysis (*"alva one"* and *"unwind t3"*) because the data fetched from Twitter API is too small.

Table 9. Sentiment Summary

Keywords	Translations	Sentiment
Mobil Listrik	Electric Car	Positive
Motor Listrik	Electric Motorcycle	Positive
Hyundai Ioniq 5	Hyundai Ioniq 5	Positive
Wuling Air EV	Wuling Air EV	Positive

Business Solution

Identify and Target Generation Z Consumers Who Have a High Level of Personal Norm

Multiple market research strategies exist to identify and appeal to Generation Z consumers with a strong sense of personal norms. To better understand the attitudes and values of Generation Z toward electric vehicles, I suggest conducting surveys and focus groups with them. Insights gathered can be used to target only those consumers who share a robust set of values concerning environmental preservation and long-term sustainability. Alternatively, manufacturers could examine social media data to find consumers involved in green or sustainable groups. Manufacturers can also learn more about Generation Z customers' values and beliefs, which can help them target the demographic most likely to have a favourable personal norm regarding electric vehicles.

Manufacturers can then create highly targeted advertising campaigns after determining their ideal customers. For instance, they can employ messaging that emphasizes the individual benefits of electric vehicles, such as financial savings and reduced environmental impact, rather than broader social factors like environmental consciousness and the influence of peers. In addition, manufacturers can reach these customers by launching focused digital and traditional marketing campaigns.

Develop Marketing Campaigns That Focus on The Personal Benefits of Electric Vehicles

Manufacturers can increase their sales of electric vehicles to Generation Z by creating marketing campaigns that emphasize the individual benefits of electric vehicles, such as cost savings and environmental impact, rather than environmental worry and the peer effect. Individuals can save money by switching to an electric vehicle because of the lower cost of ownership compared to gasoline-powered vehicles, and they can help the environment by reducing their carbon footprint because electric vehicles emit no harmful emissions. Younger consumers, like Generation Z, may be more interested in these advantages because they emphasise personal finance and environmental sustainability.

Create Incentive Programs That Target Generation Z Consumers

Governments can encourage the millennial generation to purchase electric vehicles by offering tax credits and grants for EV purchases. To make buying an electric vehicle more accessible to members of Generation Z, governments should begin offering tax credits and grants to reduce out-of-pocket expenses. Grants provide direct financial assistance to help with the purchase. At the same time, tax credits allow consumers to deduct a certain amount of the purchase price from their taxes. Governments can lower the barrier to entry for electric vehicles among Generation Z consumers, who may be more price-conscious than older generations. This can be especially helpful for members of Generation Z who are just starting in their careers and have limited financial resources and, therefore, cannot afford the higher initial investment required to purchase an electric vehicle outright. Governments can encourage the widespread use of electric vehicles in addition to monetary incentives by funding the development of charging infrastructure. The Government can do this by installing public charging stations, encouraging businesses to set up charging stations or funding electric vehicle R&D.

Invest in infrastructure to Support the Adoption of Electric Vehicle.

Governments can do their part to promote the widespread adoption of electric vehicles among Generation Z consumers and other demographics by investing in infrastructure to support the adoption of electric vehicles, such as installing charging stations. Electric vehicle (EV) owners need access to charging stations so that they can "recharge" their vehicles. It can be difficult for people who own electric vehicles to rely on them for daily transportation or to take long trips without enough charging infrastructure. When governments put money into installing charging stations, they make it easier for Generation Z consumers and other owners of electric vehicles to charge their vehicles and alleviate range anxiety, the fear of running out of charge while driving, which can discourage people from purchasing electric vehicles.

Governments may fund the development of fast-charging infrastructure to facilitate long-distance travel with electric vehicles further. There may be additional economic gains from investing in charging station infrastructure. It can stimulate economic growth and create new employment

opportunities associated with charging infrastructure production, installation, and upkeep. Long-term growth of the electric vehicle market can be supported by investing in infrastructure to facilitate widespread adoption of electric vehicles, such as installing charging stations, which can increase purchase intention towards electric vehicles among Generation Z consumers and even other groups.

Like many other countries, Indonesia has lofty targets to increase the use of electric vehicles and decrease reliance on fossil fuels. The Government has declared its intention to expand both the production and use of electric vehicles and build the requisite infrastructure for them. Charging stations will be installed in public areas and popular tourist destinations, and private businesses will be incentivized to do the same. This is all part of the Government's plan to encourage the widespread adoption of electric vehicles. Tax breaks on the purchase of electric vehicles for personal use and breaks on the import of electric vehicles and components are on the Government's agenda.

Develop Education and Awareness Campaigns of Electric Vehicles' Personal and Societal Benefits

Manufacturers and governments can work together to increase purchase intention towards electric vehicles among Generation Z consumers by creatineducationalon and awareness campaigns highlighting electric vehicles' personal and societal benefits. Consumers can be better persuaded to adopt electric vehicles if they are made aware of the numerous advantages of these vehicles, including their lower operating costs, lower environmental impact, and higher performance capabilities. Education and awareness campaigns can increase consumer understanding and acceptance of this technology by emphasizing these benefits and dispelling myths and misunderstandings about electric vehicles. Social media, online video, and influencer marketing are just a few marketing channels that can be leveraged to develop such campaigns. Using social media, car companies can promote electric vehicles' financial and environmental benefits and share customer success stories about making the switch.

Governments can also create awareness and education campaigns to show the public the societal and economic benefits of investing in the electric vehicle industry, including lowering emissions and fossil fuel use. Generation Z consumers, who tend to be more environmentally conscious and interested in cutting-edge technology, can be particularly receptive to these marketing campaigns. Manufacturers and governments can aid in the long-term expansion of the electric vehicle market by increasing purchase intent among this demographic by implementing education and awareness campaigns emphasising electric vehicles' personal and societal benefits. Below are examples of government campaigns for education and awareness from some countries.

CONCLUSION

In conclusion, personal norms are a significant factor in influencing the purchase intention of electric vehicles among Generation Z in Jakarta. Environmental concerns and peer effects are stimulus factors but do not have a significant relationship with purchase intent. Generation Z has a positive outlook on EVs. However, there is still room for improvement in marketing efforts from manufacturers, government programs, and socialization efforts. Therefore, manufacturers should focus on educating consumers about the benefits of electric vehicles, and the Government should provide incentives to promote the adoption of such vehicles. Further research is needed to explore

other factors influencing purchase intent, such as consumer knowledge and attitudes towards electric vehicles.

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