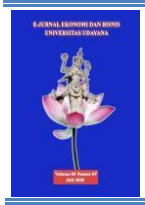

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FACTOR INFLUENCING GEN Z'S WILLINGNESS TO PAY FOR EVs: CLEAN ENERGY POLICIES IN MATARAM CITY

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Abstract

Addressing climate change and promoting sustainable transportation, using electric vehicles (EVs) is crucial, especially in urban areas such as Mataram City. Conducting a survey of 588 respondents for their technological prowess and environmental consciousness investigates the factors influencing Generation Z's willingness to pay (WTP) for EVs and supporting policies. It looks at how socioeconomic status, technology use, environmental awareness, and mode of transportation affect WTP and the intention to use structural equation modeling (SEM). The findings support the Theory of Planned Behavior (TPB) by demonstrating that the mode of transportation and environmental awareness significantly influences interest and WTP. In line with the Unified Theory of Acceptance and Use of Technology (UTAUT), technology use and socioeconomic status highlight the importance of environmental awareness while having less direct effects. Policies like tax breaks and subsidies for EV purchase. These findings can be supported by policies like tax breaks, EV purchase subsidies, and EV charging infrastructure investments. These observations help legislators encourage the use of EVs and sustainable urban growth.

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Abstract

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INTRODUCTION

In recent times, improving environmental consciousness has emerged as a key component of international efforts to mitigate climate change. (Khatibi et al., 2021) In the fight against climate change, a critical shift toward sustainable practices has been spurred by the increased global awareness of environmental challenges. The transportation industry contributes to greenhouse gas emissions due to its heavy reliance on fossil fuels (Sofaniadi et al., 2022). The transportation problems brought on by increased urbanization include traffic, pollution, and reliance on fossil fuels (Pojani & Stead, 2015). Electric vehicles (EVs) have become a viable option in this regard, providing a sustainable substitute for conventional modes of transportation. EV adoption is a critical step in solving the infrastructure and economic issues brought on by increasing urbanization, in addition to being a reaction to environmental concerns. (N. Bansal et al., 2015)

EVs have emerged as a critical solution to environmental concerns because using electric cars (EVs) will provide a greener choice that supports the more significant movement toward renewable energy sources. (Glitman et al., 2019). In addition to lowering carbon emissions, EVs work well with other renewable energy projects like solar and wind power, which makes them a crucial part of the international effort to slow down climate change. (Barthelmie & Pryor, 2021)The shift to electric vehicles (EVs) demonstrates a heightened social dedication to environmental conservation.

In an emerging market setting, a study from (Lestari & Yusra, 2022) Look into the intention-based factors influencing consumers' willingness to pay (WTP) for electric vehicles (EVs). The findings show that behavioral intentions are positively influenced by perceived environmental knowledge and performance expectancy but negatively impacted by perceived risk and information overload. Furthermore, research from (Geels, 2020) Investigates variables affecting millennials' adoption of electric vehicles (EVs) in Vietnam, emphasizing the crucial role that self-identity plays in determining consumer behavior. The Unified Theory of Acceptance and Use of Technology (UTAUT) and the Theory of Planned Behavior (TPB) are being integrated into the research to address the psychological and emotional influences on purchasing decisions related to EVs. The results show that a strong pro-environmental self-identity significantly enhances purchase orientation, driving EV adoption among millennials. Structural Equation Modeling (SEM) was used to analyze data from 485 participants. This study offers insightful information on encouraging EV adoption in this particular population.

With an emphasis on millennials in emerging markets (Le et al., 2023) Investigated the variables affecting WTP for EVs. Their findings emphasized the significance of mobility decisions and environmental consciousness. (Rahadianto et al., 2019) Highlighted how socioeconomic and technological factors indirectly affect EV adoption, with environmental consciousness as the primary motivator. They recommended utilizing cutting-edge technological features to draw in younger, tech-savvy users.

(Wijaya & Kokchang, 2023) Examined how EV adoption varies by generation, pointing out that Generation Z prefers cutting-edge and environmentally friendly forms of transportation. They also cited a significant issue of charging stations and other infrastructure impediments. According to their research, Generation Z is more likely than previous generations to favor cutting-edge and eco-friendly forms of transportation. The study also underlined how critical it is to address infrastructure obstacles like a shortage of EV charging stations to increase adoption rates.

Although they mainly concentrate on various generational and regional contexts, earlier studies offer insightful information about EV adoption. Geels (2020) investigated millennials' EV adoption in Vietnam, demonstrating how infrastructure and culture affect their mobility preferences. In their investigation of the factors influencing willingness to pay (WTP) for electric vehicles (EVs), Le et al. (2023) focused on economic and environmental considerations while ignoring the distinctive characteristics of younger generations, such as Generation Z. In their study of generational differences

in EV adoption, Wijaya & Kokchang (2023) found that younger cohorts are generally more receptive to EVs. However, they did not explore how Generation Z's environmental awareness and digital literacy interact.

Building on these findings, this study introduces novelty by focusing on Generation Z in Mataram City to expand and fill the prior research void, which is primarily focused on millennials and older cohorts. Although earlier research has examined EV adoption from a broad perspective, there is a lack of insight into distinct preferences and behavioral patterns of Generation Z. Generation Z is a group recognized for being environmentally conscious and digitally literate. Generation Z, which spans 1997 through 2012, was raised in a time of rapid technological advancement and growing environmental consciousness, known as digital natives. (Arum et al., 2023). Digital natives are a crucial group whose preferences and behaviors can influence future market trends and guide the creation of policies intended to hasten the adoption of sustainable transportation options. Gen Z was raised in an era of rapid technological advancement and growing environmental concerns. (Ghouse et al., 2024). This group is essential to target in the adoption of electric vehicles. They are more tech-savvy and more likely to support creative solutions and sustainable practices because their choices and actions significantly impact market trends and policy decisions that support clean energy transitions, making them crucial for determining the direction of green transportation in the future. (Grzesiuk et al., 2023).

This study discusses EV adoption with more regional specificity by concentrating on Mataram City. Mataram, the capital of West Nusa Tenggara Province in Indonesia, presents a unique case study for adopting electric vehicles. As a rapidly expanding urban area with rising transportation demands, air pollution, traffic congestion, and a heavy reliance on fossil fuel-based transportation are some of the problems Mataram faces. The socioeconomic and environmental dynamics of Mataram offer a distinctive context for comprehending Generation Z's preferences. This study incorporates elements like social economy, digital literacy in the use of technology, shared mobility experiences, and environmental awareness into the Unified Theory of Acceptance and Use of Technology (UTAUT) framework to capture these subtleties. With the help of this model improvement, Generation Z's motivations and obstacles can be more accurately represented, providing businesses and policymakers with valuable information.

By incorporating social economy status, digital literacy in technology use, shared mobility experiences, and environmental awareness into a modified version of the Unified Theory of Acceptance and Use of Technology (UTAUT), this study also advances the development of models. With this improvement, the model can represent the distinct behavioral patterns of Generation Z in the Mataram City regional context. Doing this fills the gap between the need for localized, generation-specific insights and earlier research that employed generalized frameworks. With a foundation in behavioral and ecological theories, this study explores the theoretical relationship between technology use, shared mobility experiences, and environmental awareness in WTP. (Ajzen, 1991). Environmentally conscious people are more likely to choose low-emission modes of transportation because attitudes, subjective standards, and perceived behavioral control influence behavioral intention. (Ajzen, 1991). According to the Norm Activation Model (Blamey, 1998)Adopting eco-friendly technologies like electric vehicles (EVs) is more likely when people feel a moral need to lessen environmental harm. This study highlights the significance of adjusting EV adoption strategies to Generation Z's preferences and provides useful implications for businesses and policymakers. These results offer practical advice for quickening the shift to clean energy and forming future inclusive, sustainable transportation systems.

Prior studies emphasize how important mobility decisions and environmental consciousness influence people's intention to use and willingness to pay (WTP) for electric vehicles (EVs). Research by Nanjing & Bhutto (2021) and Liao & Correia (2022) shows that environmental awareness and shared mobility experiences significantly increase EV adoption. Okada et al. (2019) say that people more conscious of the environment are more likely to use eco-friendly devices, such as electric vehicles.

Based on the previous research, we found that still a research gap. No study has been conducted on the young generation's perspective on the intention to use and willingness to pay for electric vehicles. Hence, we propose the research to fill the gaps by the following hypothesis:

H_1: Technology use positively and significantly impacts intention to use.
H_2: Social economy status positively and significantly impacts intention to use.
H_3: Mobility choices have a positive and significant impact on intention to use
H_4: Environmental awareness positively and significantly affects intention to use.
H_5: Technology use positively and significantly impacts willingness to pay (WTP).
H_6: Social economy status positively and significantly impacts willingness to pay (WTP).
H_7: Mobility choices positively and significantly impact willingness to pay (WTP).
H_8: Environmental awareness positively and significantly influences willingness to pay (WTP).
H_9: All variables simultaneously positively and significantly impact the intention to use and the willingness to pay for EV.

Willingness to pay (WTP) is essential to broadly adopting EVs. Policymakers and industry stakeholders must know how much people are prepared to spend on EV technology to create and accelerate incentive programs. These regulations can significantly influence the rate at which EVs are adopted, shaping transportation in the future. Furthermore, WTP and economic development go hand in hand because a rise in the use of EVs may create new job possibilities and boost local economies. (Tuladhar et al., 2023)

This study explores the main factors influencing Generation Z's willingness to purchase electric vehicles (EVs) in Mataram City. To ascertain why people wish to adopt EVs, the study examines various factors, such as mobility preferences, socioeconomic status, technology use, and environmental awareness. Given the unique combination of digital literacy and ecological consciousness that characterizes Generation Z, it is critical to understand their preferences to shape future regulations and business strategies that support the transition to renewable energy sources. Determine how these variables affect Generation Z's willingness to use and pay for electric vehicles. The research will analyze mobility choices, socioeconomic status, technology use, and environmental awareness. The study uses structural equation modeling (SEM) to identify those factors regarding how Gen Z intends to use and the willingness to pay for electric vehicles.

RESEARCH METHODS

A structured questionnaire was used to gather data for this study, and it was given to 588 respondents who were members of Generation Z in Mataram City. The group known as Generation Z—those born between 1997 and 2012 (Arum et al., 2023) This group was selected because of its advanced technological literacy and increased awareness of environmental issues. Due to its potential future usage, this group is crucial for assessing the willingness to pay (WTP) for electric vehicles (EVs). It has the potential to influence the uptake of sustainable transportation technologies greatly. The questionnaire was created to collect quantitative and qualitative information, emphasizing technology use, social economy status, mobility choices, environmental awareness, intention to use, and willingness to pay (WTP).

This study used the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique with Smart PLS software. Since PLS-SEM is used in previous research, then it can handle complex models with multiple latent variables, like technology use, social-economic status, mobility choices, and environmental awareness, which all affect intention to use and willingness to pay (WTP) for electric vehicles, it was selected. PLS-SEM is more versatile than covariance-based SEM, especially in exploratory research where the goal is to predict and explain the variance in critical dependent variables

like WTP. Furthermore, PLS-SEM is suitable for both formative and reflective measurement models. The tool is a perfect fit for assessing the predictive relationships between variables.

The variables chosen have an essential role in understanding Gen Z's intention to adopt electric vehicles and their willingness to pay. Technology use is relevant because Gen Z was born into and grew up with digital technology. It influences their acceptance of related innovations, as noted by (Venkatesh et al., 2003). Socioeconomic status also comes into play, as individuals with high incomes and a higher level of education are more likely to invest in expensive green technologies. Mobility choices are also vital: people who are more open to different transportation options, such as public transit or shared mobility, can be more flexible in switching to EVs. Finally, environmental awareness has a high impact in adopting EVs since the more ecologically conscious the respondents are, the more they perceive EVs as one of the solutions to lower emissions and combat climate change. These gave critical insight into the key drivers of Generation Z's intention and WTP for EVs.

Table 1.
Survey Variables and Indicators

No.	Variables	Questions	Type of Response	Reference
1	Technology use			
	- Using smartphones to access a wide range of information	1. Never 2. Rarely 3. Sometimes 4. Often 5. Always	Likert Scale (never to always)	(Park et al., 2013)
	- Use smartphones to watch movies, listen to music, and consume other media.	1. Never 2. Rarely 3. Sometimes 4. Often 5. Always	Likert Scale (never to always)	(Dr. Hyeon-Shic Shin, Michael Callow, Ph.D, Z. Andrew Farkas, Ph.D, Young-Jae Lee, Ph.D, 2016)
	- Using mobile applications for transportation services	1. Never 2. Rarely 3. Sometimes 4. Often 5. Always	Likert Scale (never to always)	(Wang et al., 2013)
	- Using barcodes to access services or information.	1. Never 2. Rarely 3. Sometimes 4. Often 5. Always	Likert Scale (never to always)	(Liu, 2017)
2.	Social-Economy Status			
	- Education level	Education degree	Multiple choices	(Herndon et al., 2013) (Zedan, 2011)
	- Dependent	Number of family members	Multiple choices	(Zedan, 2011)
	- Electricity costs	Open-ended	Text (Number)	(Jones et al., 2015), (Brown et al., 2020)
3.	Mobility choices			
	- Have used public mobility services	Yes/ No	Binary Choice	(Luo et al., 2023)
	- Length of daily mobility use	Range of daily mobility time	Multiple choices	(Thorhauge et al., 2020)
4.	Environmental awareness and transportation regulation			

Continue:

- I believe that global warming is caused by modernization	1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree	Likert scale (disagree to agree)	(Pal et al., 2023)
- I believe vehicle gas emissions contribute to air pollution and global warming	1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree	Likert scale (disagree to agree)	(Riley et al., 2021)
- I believe that individual action can make a significant difference in solving environmental problems	1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree	Likert scale (disagree to agree)	(Short, 2009)
- I use a bicycle or public transportation while being mindful of fuel-saving efforts	1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree	Likert scale (disagree to agree)	(Horton, 2006)
- I use electric vehicles	Yes/ No	Binary choice	(Malik & Sharma, 2022)
- Applying tight regulation can effectively reduce air pollution	1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree	Likert scale (disagree to agree)	(Zheng et al., 2015)
- I believe that electric vehicles can reduce emissions and contribute to environment	1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree	Likert scale (disagree to agree)	(Malik & Sharma, 2022)

Sources: Developed by Authors, 2024

RESULT AND DISCUSSION

Table 2.
Demographic Respondent

Demographic Variable	Category	Number of Respondents	Percentage
Gender	Male	318	54%
	Female	270	46%
Age Group (Gen Z)	<17 years old	2	0,3%
	17-22 years old	443	75,3%

Continue:

	23-27 years old	143	24,3%
Education Level	Fresh Graduate	128	21,8%
	Higher Education	404	68,7%
	Senior High School	53	9,0%
	Junior High School	3	0,5%
Employment	Student	457	77,7%
	Employee	45	7,7%
	Unemployed	26	4,4%
	Freelancer	24	4,1%
	Civil Servant	21	3,6%
	Self-employed	15	2,6%
Monthly Income (IDR)	< 2.400.000	532	90.48%
	2.400.000 - 4.800.000	34	5.78%
	4.800.001 - 7.200.000	18	3.06%
	7.200.001 - 9.600.000	2	0.34%
	9.600.001 - 12.000.000	2	0.34%
Awareness level (citation)	Low Awareness	7	1,2%
	Moderate Awareness	76	12.90%
	High Awareness	230	39.10%
	Very High Awareness	268	45.60%
Total		**588**	**100.00%**

Sources: Developed by Authors, 2024

This is evident in the demographic profiling of the 588 respondents from Generation Z in Mataram City, consisting of a balance between genders, with 54 percents males and 46 percent females. The heavy population falls between the age brackets of 17-22 years old at 75.3 percent, followed by a smaller population between the 23-27 27-year-old group (24.3 percent), and just 0.3 percent below the age of 17. Most respondents have finished college at 68.7 percent, fresh graduates at 21.8 percent, and senior and junior high school students at smaller percentages, 9.0 percent and 0.5 percent, respectively.

The students are the most significant respondents in the employment demographic, as much as 77.7 percent, followed by self-employed 2.6 percent, employed 7.7 percent, unemployed 4.4 percent, freelancers 4.1 percent, and civil servants 3.6 percent. In addition, most respondents (90.48 percent) have an income below IDR 2,400,000 per month, meaning the participants generally come from a relatively lower-income bracket. The demographic information on the respondents' financial situation, educational background, and work status is necessary to understand their willingness to pay for electric vehicles.

Table 3.
Gen Z Behavior

Variable	Category	Number of Respondents	Percentage
Intention to use	Willing to use EV	538	91,5%
	Unwilling to use EV	50	8,5%
WTP for daily activities (IDR per minute)	500-2000	355	60,4%
	2001-5000	134	22,8%
	5001-7000	83	14,1%

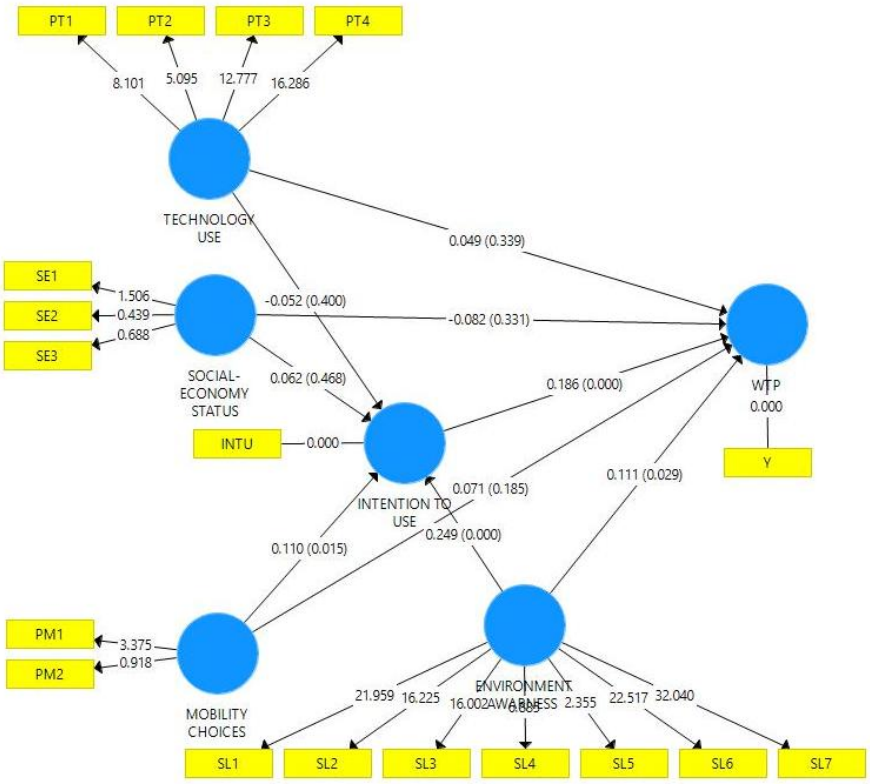
Continue:

	7001-10000	16	2,7%
WTP for tourism purposes (IDR per minute)	100-10000	373	63,4%
	10001-20000	126	21,5%
	20001-30000	89	15,2%
Total		**588**	**100%**

Sources: Developed by Authors, 2024

An examination of Mataram City's Generation Z behavior regarding electric vehicles (EVs) indicates a strong preference for environmentally friendly transportation, with 91.5 percent of respondents expressing a willingness to use EVs. Their strong desire to utilize EVs demonstrates their concern for the environment and desire to help create a more sustainable future. The result of willingness to pay reveals that Gen Z has varied price sensitivities depending on the purpose. The majority (60.4 percent) show a lower price point for daily activities and are willing to pay between IDR 500 and 2000 per minute. This trend points to a more frugal approach to daily transportation expenditures.

On the other hand, for tourism purposes, there is a higher WTP among respondents. Perhaps because they perceive EVs as improving their travel experience, 63.4 percent of respondents are willing to pay between IDR 100 and 10,000 per minute, demonstrating flexibility at a wider range of price points. When it comes to leisure or experiential activities, where they are willing to spend more, Generation Z may prioritize sustainable options, as evidenced by their willingness to pay more for travel.



Sources: Research Result, 2024

Figure 1. Statistic Result

The structural equation model (SEM) results show varying correlations between key factors on intention to use and willingness to pay (WTP) for electric vehicles. Here are some hypotheses and interpretations based on the statistical results:

H_1: Technology use has a positive and significant impact on intention to use

According to empirical research, using technology makes it easier for customers to interact with cutting-edge goods like electric cars (EVs). A study by (Hidrue et al., 2011) examined how technological features significantly impact consumers' willingness to pay (WTP) for electric vehicles (EVs). Additionally, a study from P. Bansal et al. (2021) focused on Indian consumers' EV preferences, showing that they are prepared to pay more for EVs with improved features like more extended driving range and faster charging times. This lends more credence to the idea that EV technology improvements can raise consumers' WTP.

Despite these findings, based on the statistic result, the technology used has an insignificant negative impact on intention to use. Hence, it rejected the hypothesis. Notably, technology use does not significantly affect WTP ($p = 0.400$, path coefficient = -0.052). This contrasts with existing literature that suggests a strong correlation between technology use and EV adoption, indicating that for Generation Z in Mataram, other factors, such as environmental awareness, may play a more pivotal role. EV-related technologies, like shared mobility platforms or charging apps, can increase consumers' willingness to pay and use them if they are practical and easy to use. This is consistent with the UTAUT framework from (Venkatesh et al., 2003), which states that user behavior is influenced by effort expectancy and performance expectancy. Moreover, (Thompson et al., 1991) Emphasized that perceived ease of use and user needs influence technology adoption. If technology seems complicated and lacks usefulness, people may be less likely to adopt it. (Berridge et al., 2022). EV-related technologies, like charging apps or shared mobility platforms, may raise WTP for Generation Z if they are seen as relevant and easy to use (Venkatesh et al., 2003)The results indicate that the technological offerings available today might not yet meet these expectations, highlighting the need for additional research and user-centered innovations.

H_2: Social economy status positively and significantly impacts intention to use.

In this study, social economy status has a slight positive impact on intention to use, as indicated by the p-value of 0.468 and the path coefficient of 0.062. The relationship is not statistically significant, as indicated by the high p-value, which implies that social economy status has no discernible effect on intention to use in this model. A previous study found that the intention to use is not significantly predicted by social economy status. (Kala et al., 2024). Furthermore, A study found that socioeconomic factors such as income, marital status, education, and gender did not significantly affect customers' intention to support Islamic social enterprises. (Hati & Idris, 2014). These findings are consistent with their earlier research. According to the statistical result, this lack of significance could be caused by the influence of financial perceptions, the need for alternative bases for intention formation, or the poor predictive value of socioeconomic status. These results indicate that other factors may more strongly influence intentions to use and that social economy status may not have much predictive power.

Studies such (Hati & Idris, 2014) Found that income and education often moderate consumer decisions in adopting green technologies. While socioeconomic status may directly influence financial capacity, its indirect effect on intention can be mediated by attitudes shaped by perceived cost-benefit analysis. According to the TPB framework by (Ajzen, 1991)The intention to use EVs may be influenced by perceived behavioral control, which is frequently linked to financial resources. However, as (Bryła et al., 2022) Content, policy incentives (such as subsidies), and infrastructure may lessen the impact of income inequality, enabling EV adoption for a broader range of people, particularly significantly younger, lower-income groups like Generation Z.

H_3: Mobility choices have a positive and significant impact on intention to use

It has been hypothesized that those who use sharing mobility and have a shorter range of transportation are more inclined to use an EV. With a path coefficient of 0.110 ($p = 0.015$), the analysis demonstrates a significant positive relationship between Mobility Choices and Intention to use. This suggests that people are more likely to use new options, such as electric vehicles, when they are receptive

to different or sustainable modes of transportation. Therefore, encouraging adaptable, environmentally friendly mobility options could significantly increase the uptake of sustainable transportation options. It is aligned with Liao & Correia (2022), who found that users of shared electric mobility services, including electric carsharing, show higher demand and acceptance for electric vehicles than traditional vehicles. Moreover, a study by Liao & Correia (2022) indicates this preference is influenced by environmental awareness, cost savings, and convenience, particularly in urban environments with good transport connectivity and high demand for short trips.

Similarly, a previous study from (P. Bansal & Kockelman, 2017) Shared mobility experiences lower psychological barriers and promote favorable attitudes toward new technologies like electric vehicles (EVs). This is consistent with the Norm Activation Model. (blamey, 1998), which highlights moral obligations in eco-friendly choices, and the TPB (Ajzen, 1991) Which holds that past behavior and subjective norms shape intention.

H_4: Environmental awareness positively and significantly affects intention to use.

WTP is significantly positively impacted by environmental awareness (path coefficient 0.249, p-value 0.000), suggesting that people who care more about the environment are more willing to pay for electric vehicles. As claimed by (Okada et al., 2019), people who are more conscious of environmental issues, like reducing CO_2, are more likely to be interested in EVs because they believe these vehicles support ecological sustainability and conservation initiatives. This supports the notion that EV adoption is more likely among those who value long-term environmental continuity. In a similar vein, (Nanjing & Bhutto, 2021) People who care a lot about sustainability are more likely to support green innovations because they believe they align with environmental values. This is consistent with the grand theory from TPB. (Ajzen, 1991), which holds that behavioral intentions are shaped by attitudes and subjective norms influenced by environmental values. Furthermore, the Norm Activation Model (blamey, 1998) Emphasizes that pro-environmental behavior is encouraged by a sense of moral obligation.

The model expands on UTAUT by adding environmental awareness as a significant determinant and connecting it to effort expectancy and the perceived utility of EVs. These findings highlight how encouraging environmental education can boost pro-environmental sentiments and encourage Generation Z to adopt EVs. This research emphasizes the value of public awareness campaigns and policies emphasizing the ecological advantages of electric vehicles (EVs), facilitating a transition to more environmentally friendly modes of transportation.

H_5: Technology use positively and significantly impacts willingness to pay (WTP).

The relationship between technology use and willingness to pay (WTP) is marginally positive, with a p-value of 0.339 and a path coefficient of 0.049. However, because the p-value is higher than typical significance thresholds (e.g., 0.05), it suggests that the relationship is not statistically significant. Therefore, in this model, technology use has no discernible or meaningful effect on WTP, indicating that it is not a major predictor of willingness to pay for EV.

Technological features like faster charging and more extended range strongly influence consumer willingness to pay (WTP) for green products such as EVs. (Hidrue et al., 2011; Xia et al., 2024). Furthermore, (P. Bansal et al., 2021) Stress that technological familiarity, such as apps for EV charging or mobility services, improves WTP by raising perceived practicality and convenience. This is consistent with TPB theory by (Ajzen, 1991), which holds that behavioral intention is fostered by perceived behavioral control, and UTAUT by (Venkatesh et al., 2003), which emphasizes performance and effort expectancy as essential drivers of technology adoption.

H_6: Social economy status positively and significantly impacts willingness to pay (WTP).

The statistical result shows that the negative path coefficient (-0.082) indicates a weak and negative relationship between social economy status and WTP. Still, this relationship is not statistically significant since the p-value (0.331) is much higher than the typical significance threshold (0.05). In practical terms, socioeconomic status does not significantly influence Generation Z's willingness to pay

for EVs in Mataram City. Higher or lower income, education, or family size are not essential factors in determining how much Generation Z is willing to pay for EVs. WTP might be indirectly increased by addressing these disparities through government programs like targeted subsidies and infrastructure improvements, especially for lower-income groups. These findings highlight the significance of laws that lower costs and open EVs to people from all socioeconomic backgrounds.

It indicates that people who are well educated, have fewer family members, and pay more for electricity are more inclined to use green products such as electric vehicles, ecological agriculture products, and footprints. (Silva et al., 2024; Dewi et al., 2022; Li & Yin, 2022; Yang et al., 2021)Empirical research shows that consumer adoption of green technologies is influenced by financial capacity, which is frequently moderated by income and education levels. (Hati & Idris, 2014). According to (Bryła et al., 2022)Government-controlled initiatives like subsidies and infrastructure development are vital in promoting EV adoption, even though socioeconomic factors are also significant. This is consistent with TPB. (Ajzen, 1991)This holds that behavioral intention and WTP are influenced by perceived behavioral control, which is closely related to financial resources. However, a significant obstacle to the switch to EVs in Lombok is the absence of supporting infrastructure, such as public charging stations and incentives based on policy. This emphasizes the necessity of all-encompassing government initiatives to close these gaps. The government can successfully support the region's shift to sustainable transportation by prioritizing infrastructure upgrades and enacting laws that encourage the use of EVs.

H_7: Mobility choices positively and significantly impact willingness to pay (WTP).

The p-value of 0.185 and a path coefficient of 0.071 indicate a positive but statistically insignificant relationship between mobility choices and WTP. Although the findings imply that shared mobility experiences might improve opinions of EVs, the lack of statistical significance suggests that mobility decisions alone are not a reliable indicator of WTP in this situation. These results imply that to optimize their influence on EV adoption, shared mobility initiatives should be paired with more comprehensive tactics, like increasing environmental consciousness. Previous research emphasizes how having experience with shared mobility options, like car and ride sharing, helps people have more favorable opinions about new transportation technologies, like electric vehicles. (P. Bansal & Kockelman, 2017). Because of the convenience, environmental advantages, and familiarity with sustainable transportation systems, shared mobility users are more likely to adopt EVs, according to empirical studies like (Liao & Correia, 2022). This is consistent with the TPB. (Ajzen, 1991)Which holds that past experiences influence behavioral intention. Shared mobility is crucial to expanding the UTAUT model, connecting its effects to perceived effort expectancy and sustainability advantages.

The results imply that raising awareness of EV technologies and encouraging shared mobility options like EV rentals or car-sharing schemes can improve WTP. Companies and policymakers should give these projects top priority to hasten the adoption of sustainable transportation. Customers are likely to extend their positive opinions of shared mobility—which include cost-effectiveness, convenience, and environmental sustainability—to electric vehicles. This familiarity increases their willingness to pay for them because they perceive EVs as practical and cutting-edge answers to their mobility needs.

H_8: Environmental awareness positively and significantly influences willingness to pay (WTP).

According to studies like (Nanjing & Bhutto, 2021) and (Okada et al., 2019)Environmental awareness is a reliable indicator of WTP for EVs. People who care about the environment are more inclined to embrace and pay for green technologies because they believe EVs are consistent with their sustainability ideals. This is consistent with the Norm Activation Model (Blamey, 1998), which connects moral commitments to environmentally friendly behavior, and the TPB theory from (Ajzen, 1991), which holds that attitudes toward sustainability and subjective norms influence behavioral intentions.

There is a statistically significant positive relationship between environmental awareness and willingness to pay (WTP), as evidenced by the path coefficient of 0.111 and p-value of 0.029. The

extended UTAUT model highlights the impact of environmental awareness on consumer decisions by integrating it as a crucial determinant of perceived usefulness and behavioral intention. The findings highlight the value of educational initiatives and public awareness campaigns in raising environmental consciousness. Policymakers can encourage greater WTP among Generation Z and aid in the shift to clean energy by cultivating a deeper understanding of the advantages of EVs. This implies that people's willingness to pay for eco-friendly options, like electric vehicles, increases with their awareness of environmental issues. This connection emphasizes how crucial it is to raise environmental awareness to encourage environmentally friendly transportation options. The direct effect of environmental consciousness on WTP highlights how it influences consumer choices toward greener options. People may be worried about the substantial harm fossil fuel causes to the environment.

H_9: All variables simultaneously positively and significantly impact the intention to use and the willingness to pay for EV.

Several factors, including technology use, socioeconomic status, environmental awareness, and mobility choices, influence consumer decisions regarding EV adoption. (Bansal & Kockelman, 2017; Bong Ko & Jin, 2017; De Silva et al., 2024; Lavuri, 2022; Yang et al., 2021)Moreover, research points out that these factors work together to affect financial commitment to sustainable transportation and behavioral intentions. (Liao & Correia, 2022). This is consistent with UTAUT. (Venkatesh et al., 2003), which integrates several factors of technology acceptance, and TPB (Ajzen, 1991)Which contends that attitudes, subjective norms, and perceived behavioral control influence intention. According to this study, technology use, socioeconomic status, mobility choices, and environmental awareness significantly impact intention to use and WTP for EVs. Even though the significance of the individual variables varies, their combined contribution offers a comprehensive understanding of consumer behavior. These results highlight the importance of promoting EV adoption through an integrated strategy. To encourage greater intention and WTP for EVs among Generation Z, policymakers and businesses should address all pertinent factors, including improving technology accessibility, providing financial incentives, upgrading mobility infrastructure, and increasing environmental awareness.

Mobility choices and environmental awareness have a significant impact on WTP. Although social-economic status and technology use do not directly affect WTP, they have substantial indirect effects through ecological awareness and intention to use. Mobility choices significantly impact Intention to Use, which in turn influences WTP. Based on behavioral and ecological theories, this study explores the theoretical relationship between mobility choices, environmental awareness, and Willingness to pay (WTP). The consumer's behavioral intention to embrace new transportation options, such as electric vehicles (EVs), is indicated by their mobility choices, which are influenced by affordability, convenience, and environmental impact. The Theory of Planned Behavior (Ajzen, 1991) It states that attitudes, subjective norms, and perceived behavioral control all impact intention. People who value environmentally friendly transportation are more likely to support low-emission options, so they are more willing to pay (WTP) for EVs. Comparably, environmental awareness, including pollution and climate change knowledge, is consistent with the Norm Activation Model. (blamey, 1998), which postulates that people who believe they have a moral duty to reduce environmental harm are more likely to adopt eco-friendly habits and technologies, such as electric vehicles (EVs). This ethical obligation increases Their Willingness to pay (WTP) for cleaner transportation options because they believe these choices advance society. When it comes to Mobility Choices, people who place a high priority on lowering their carbon footprint are more likely to select electric vehicles over conventional ones because they are in line with both personal responsibility and environmental values.

On the whole, while environmental awareness and mobility choices have the most considerable influence on the adoption of EVs, technology use and socioeconomic status also play a minor but positive role. This suggests that promoting flexibility in transport options and environmental education may further encourage the adoption of EVs among Generation Z.

The study's conclusions show some inconsistencies but concur with several earlier studies. The results of (Okada et al., 2019) and (Nanjing & Bhutto, 2021) which highlight the importance of ecological concerns in promoting pro-environmental behavior, were supported by the finding that environmental awareness was the strongest predictor of both intentions to use and willingness to pay (WTP) for electric vehicles (EVs). Similar to Liao & Correia (2022), who discovered that shared mobility experiences increase EV acceptance due to their convenience and sustainability benefits, mobility choices also significantly impacted intention and WTP.

On the other hand, the influence of socioeconomic status and technology use was less pronounced than expected. This study found that technology use had a negligible relationship with both intention and WTP, despite (Venkatesh et al., 2003) Emphasizing the importance of perceived ease of use in technology adoption. This discrepancy might result from Mataram's Generation Z's limited perception of the usefulness or relevance of current EV technologies. Furthermore, in contrast to (Bryła et al., 2022)Who highlighted financial capability as a crucial factor? Socioeconomic status did not significantly affect intention or WTP. This disparity may be explained by the study's emphasis on a younger, primarily low-income group, which implies that other elements like environmental values significantly influence their preferences more than financial ones.

The findings are also helpful in offering new perspectives to policymakers and more accurately determining the potential impact of Generation Z on the acceleration of electric vehicle adoption. These will serve as guidelines in developing pricing plans, infrastructure investments, and government incentives that fit the preferences and budget of this generation to support Mataram. Here are some recommendations and policies based on the results of this study:

Since technology use has a path coefficient of 0.839 in positively influencing the intention of adopters, governments and private sector actors should integrate advanced technology features into EVs. For instance, innovative apps that enable users to monitor charging, access vehicle-sharing services, or find the nearest charging station can enhance user experience. Technologies like these increase convenience and appeal, making EVs more attractive to tech-savvy Generation Z. based on (Venkatesh et al., 2003)They highlighted how technology use positively impacts the adoption of innovative solutions.

Even though environmental awareness and mobility choices have a more significant influence than socioeconomic status (path coefficient 0.669), financial considerations still play a part in Generation Z's decision to adopt electric vehicles. To lower EVs' cost, policymakers should consider providing tax breaks, subsidies, or low-interest financing options. According to research, financial incentives can reduce the cost barrier and increase the likelihood that consumers will purchase electric vehicles (EVs) (Herndon et al., 2013)

The strong impact of mobility choices (path coefficient 3.238) suggests that enhancing the convenience of EV use can boost adoption. Expanding EV charging infrastructure is something the government should fund, especially in cities, shopping centers, and colleges. One of the biggest obstacles to EV adoption, "range anxiety," would be lessened as a result. According to research, the presence of widely spaced charging stations can influence people's decisions to choose electric vehicles (EVs) (Thorhauge et al., 2020)

Research indicates that greater environmental awareness strongly impacts the adoption of electric vehicles (EVs) and other pro-environmental behaviors. (Barthelmie & Pryor, 2021)It has been proven that environmental awareness (path coefficient 4.673) has the most significant impact on the intention to adopt EVs. The government should launch campaigns highlighting the environmental advantages of EVs, including lower carbon emissions and better air quality. Working with educational institutions, colleges, and social media influencers can help educate Generation Z on making cleaner transportation choices in the fight against climate change.

Governments could encourage companies to provide EV sharing or short-term rental programs aimed at younger consumers in addition to current mobility options. These initiatives would lessen the requirement for significant upfront expenditures, increasing EV accessibility and suiting Generation Z's preferred mode of transportation. Research indicates that shared mobility options increase the appeal of EVs, particularly for younger users who place a higher value on flexibility and convenience. (Luo et al., 2023)

CONCLUSION AND SUGGESTIONS

The findings show that the two main factors influencing Generation Z's intention to adopt EVs are environmental awareness and mobility choices. The most significant impact comes from ecological awareness, consistent with TPB's emphasis on attitudes and concerns regarding sustainability. Mobility options are also crucial since flexible travel choices promote the uptake of electric vehicles. Although socioeconomic status and technology use exhibit a minor impact compared to other factors, they still play a significant role. Policymakers should consider addressing barriers related to these factors, such as financial constraints or lack of technological infrastructure, to encourage broader EV adoption. Financial incentives like tax breaks and subsidies could help lower-income consumers adopt EVs, while advanced technological features integrated into EVs could increase appeal among Generation Z. In line with TPB's focus on perceived behavioral control, UTAUT asserts that technology use is influenced by effort expectancy (ease of use) and performance expectancy (EV benefits), with socioeconomic status reflecting financial barriers. Policymakers can address these obstacles by offering financial incentives like tax breaks and low-interest loans to increase EV accessibility.

Several limitations in this study serve as a basis for future investigations. Its exclusive focus on Mataram City's Generation Z restricts the finding's applicability to other demographic groups or geographical areas. Monitoring changing attitudes and actions regarding electric vehicles (EVs) is challenging because the cross-sectional design only records information at one particular moment. Furthermore, using self-reported data raises the possibility of social desirability bias. Although structural equation modeling (SEM) is an effective method for analyzing the relationships between variables, it cannot establish causal links. Future studies should broaden their scope to encompass various regions or generational cohorts to overcome these constraints and use longitudinal designs to track changes over time. Furthermore, investigating the effects of policy interventions, like subsidies or infrastructure improvements, could yield practical insights for speeding up EV adoption. At the same time, experimental or mixed-method approaches could validate findings and reinforce causal inferences.

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