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Consumer Acceptance of Toyota Hybrid Vehicles Amid Indonesia's Transition Toward Battery Electric Vehicle

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Abstract

This study examines consumer acceptance of Toyota Hybrid Electric Vehicles (HEVs) amid Indonesia's transition toward Battery Electric Vehicles (BEVs) on Indonesian market. Using a quantitative approach, the research analyzes six key variables: government incentives, infrastructure readiness, environmental concern, brand positioning, price perception, and after-sales service quality. Data were collected through an online Likert-scale questionnaire distributed to approximately 100 respondents selected via purposive sampling. The results indicate that four variables government incentives, price perception, brand positioning, and after-sales service quality significantly influence consumer acceptance of hybrid vehicles. Government incentives emerged as the strongest driver, suggesting that electrification policies positively impact hybrid perception. In contrast, infrastructure readiness and environmental concern were not significant, indicating that BEV-related external pressures have not yet substantially shifted consumer preferences. The findings highlight that Toyota's hybrid strategy remains relevant due to strong brand trust, perceived value, and service reliability. However, its long-term competitiveness will depend on adapting to the evolving electrification landscape.
Keywords: Consumer Acceptance, Hybrid Vehicles, Toyota, BEV Transition.

1. Introduction

In the past decade, one of the major driving forces of the global population has been the emphasis on protecting the environment. Increased worries about climate change, air pollution, and the sustainability of a global economy reliant on fossil fuels, have prompted a change in consumers, the practices of businesses, and government policies. International Agreements like the Paris Agreement have laid the foundation for countries to pledge to carbon neutrality, and with the governments in Europe and most of Asia enacting policies with the intention to facilitate the switch to cleaner ways to provide energy and less harmful ways to conduct business (International Energy Agency, 2024). Among the industries to be affected directly by these changes, the automotive industry, of which is comprised of the largest global contributors of Greenhouse gasses, has been under the most pressure to significantly change the design, power, and use of automobiles (Lutsey & Nicholas, 2019).

Indonesia, the leading auto market in Southeast Asia, is implementing electrification per the ambitious National Electrification Program. Presidential Regulation No. 55/2019 outlines the Low Carbon Emission Vehicle (LCEV) Program and establishes a 2060 net-zero emissions target that includes two million electric cars and twelve million electric motorcycles. The International Institute for Sustainable Development (2025) cites the Regulation and LCEVs as Indonesia's commitment to an electrification pathway. As a demand-side driver, the Indonesian government enacted fiscal measures to lower the luxury goods sales tax (PPnBM) and subsidized the purchases of electric two-wheelers. In 2023, Indonesia's EV adoption rate was the lowest in Southeast Asia. In 2023, Battery Electric Vehicles (BEVs) accounted for 2.5% of new car sales in Indonesia versus 9% in Thailand (BloombergNEF, 2024).

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Indonesia's coal-based power, dense cities with little electric vehicle (EV) charging stations, and low average consumer incomes are cited as structural barriers to EV adoption (Lazuardy et al., 2024). Indonesia has the infrastructure and localized economy to respond to electrified mobility, but is constrained by the barriers listed, while the rest of the world adopts EVs to meet compliance.

This changing scenario has seen Indonesian car makers take different routes toward electrification. Several global and regional competitors including Hyundai, Wuling, and BYD have made aggressive BEV-centric market launches, utilizing localized production and low pricing to gain first-mover advantage in the young Indonesian EV segment (Gaikindo, 2024). PT Hyundai Motor Manufacturing Indonesia has started producing BEVs locally, bringing models such as the Ioniq 5 to the mainstream market. The Wuling Air EV was a success due to its low price and attractiveness to city commuters and government fleet buyers. These changes suggest a wider industry agreement that BEVs are the main direction for car electrification, and that companies' ability to compete in the future market in Indonesia would depend on having a BEV presence early (BloombergNEF, 2024).

In comparison, Toyota Indonesia's strategy is markedly different. Rather than advocating a rapid BEV strategy, they have chosen HEVs as the main electrification strategy in the Indonesia market, where hybrids are a more pragmatic solution as a transitional technology to reduce emissions without demanding the same level of BEV charging infrastructure and the altering of consumer behavior (Toyota Global, 2024). Toyota's approach reflects the company's global philosophy of "multi-pathway" electrification strategy which asserts that different markets and different local energy and economic conditions require unique solutions and that HEVs, PHEVs, BEVs and FCEVs are not competing but rather complementary technologies (Toyota Global, 2024). This is evident in Indonesia where Toyota has localized the production of the Kijang Innova Zenix Hybrid in its Karawang plant, providing Hybrid Electric Vehicles as the most viable and economically practical solution for Indonesian consumers with limited resources and infrastructure (Toyota Astra Motor, 2024). In this strategy, Hybrid technology has been purposely chosen by Toyota as an answer to the demands of a greening market. This is where the business problems and competitive issues that this research addresses, emerge.

2. Methods

This study aims to analyze Toyota's strategy in marketing hybrid vehicles in Indonesia using a quantitative approach. The research focuses on six main variables: government incentives, infrastructure readiness, environmental concern, brand positioning, price perception, and after-sales service quality, which are tested against consumer acceptance of hybrid vehicles. Data were collected through an online questionnaire using a Likert scale, targeting respondents with knowledge or experience related to electric vehicles, employing a purposive sampling technique with approximately 100 respondents. Data analysis was conducted using descriptive statistics and regression with SPSS to examine the relationships among variables. The results are expected to reveal the extent to which internal and external factors influence the competitiveness of Toyota's hybrid vehicles amid the rapid development of Battery Electric Vehicles (BEVs) in Indonesia, while also providing strategic recommendations for the company.

3. Result and Discussion

Business Solution

This study proposes many strategic business solutions based on the findings to boost Toyota's hybrid car posture in the Indonesia transition to Battery Electric Vehicles (BEVs). The regression study shows that Brand Positioning, Price Perception, After-Sales Service Quality, and Government Incentives greatly impact Hybrid Vehicle Acceptance. On the other hand, Infrastructure Readiness and Environmental Concern were found to have no significant influence, demonstrating that external BEV-oriented transition factors are still not powerful enough to dramatically move consumer preference away from hybrid vehicles.

Apart from these regression results, a post hoc analysis of One-Way ANOVA has been performed to examine whether the Hybrid Vehicle Acceptance differs among the customer demographic groups, i.e., age and monthly income. The results indicate that there is no significant difference between the age groups ($F = 0.705$, Sig. = 0.497) and the monthly income ranges ($F = 1.573$, Sig. = 0.213). Tukey HSD post-hoc tests further confirm that all pairwise group comparisons are statistically non-significant. This study suggests that the business solutions presented can be applied to all consumers of Toyota, and are not demographically segmented. Importantly, while the overall difference between income groups is not statistically significant, the Lower-Middle Income group has a non-significant directionally lower mean acceptance score (22.09) than the Middle and Upper-Middle/High Income groups (23.47 and 23.45 respectively), providing a slight additional reason to consider price value communications an important lever for all consumer groups.

Therefore, the proposed business solutions focus on strengthening Toyota's practical value proposition while positioning hybrid vehicles as transitional mobility solutions within Indonesia's evolving electrification ecosystem.

a. Strengthening Hybrid Positioning as Practical Transitional Mobility

Brand Positioning was confirmed as a significant positive driver of Hybrid Vehicle Acceptance ($\beta = 0.276$, Sig. = 0.031), indicating that consumers' trust in Toyota's brand directly reinforces their openness toward hybrid vehicles. This finding suggests that Toyota's most defensible strategic lever is not technological differentiation, but the deepening and communication of its existing brand credibility as a practical, worry-free mobility solution.

The results suggest consumers still view hybrid vehicles as realistic, less risky choices in the transition to complete electrification. This allows Toyota to further reinforce the positioning of hybrid vehicles as both environmentally friendly products and as practical mobility solutions that offer fuel efficiency, driving convenience, reliability and flexibility without being fully reliant on charging infrastructure.

In support of this stance, Toyota may also develop communication campaigns that focus on “worry-free electrification” by emphasising the convenience of hybrid ownership vs BEVs. Marketing campaigns should emphasize real-world usage, fuel efficiency in urban commuting, easier long-distance travel and less charging dependency. Instead of directly competing with BEVs in terms of technological sophistication, Toyota can portray hybrids as balanced mobility solutions that are applicable to the current Indonesian market conditions.

Additionally, dealership communication must be improved to decrease consumer anxiety surrounding hybrid technology. "Product descriptions should be more

practical, less technical, and about ownership. Demonstration units, ownership simulators and instructional test-drive programs may assist consumers better comprehend the daily practicality of hybrid automobiles. Acceptance was consistent across all age groups including Young Adults who could be anticipated to display a larger BEV preference (ANOVA). This program can be used across all customer groups without the need for age segmentation.

b. Enhancing Price Value Communication and Ownership Transparency

Price Perception was the leading internal predictor of Hybrid Vehicle Acceptance and was tested alongside the other variables (β = 0.305, Sig. = 0.007). Price Perception shows us that consumers of hybrid vehicles assess the total value of hybrid vehicles, rather than the total price of hybrid vehicles. This leads us to a communication gap. While Toyota's hybrids offer favorable long-term ownership, economics, and cost structures, consumers currently are unable to see or access these value structures at the moment of their decision.

Price Perception shows us that consumers of hybrid vehicles assess the total value of the hybrid vehicle, rather than the purchase price of that hybrid vehicle. As a result, Toyota should communicate the long-term value of hybrid ownership, especially with the value of fuel, a reduction in maintenance, durability, and improved residual value.

One of the solutions is to give consumers ownership simulations to educate them about the costs of owning hybrid vehicles versus conventional ICE vehicles vs BEVs. The costs of fuel and maintenance and the benefits of battery warranties and operational efficiency strongly indicate hybrid vehicles are a better value than ICE vehicles. Because of this, hybrids should not be considered value-thin products and should rather be considered value-added products. Toyota should also improve digital savings tools available to customers and offer hybrid savings, ownership cost estimation, and comparative cost tools at online dealerships and customer applications. By improving ownership clarity, Toyota could capture more acceptance of hybrids from cost conscious, middle income, urban customers.

The ANOVA findings support using this hybrid acceptance estimations model. No strong, meaningful differences from the other income groups were found, but the Lower-Middle Income group had the lowest acceptance of hybrids at 22.09, when compared with the Middle Income group at 23.47 and the Upper-Middle/High Income group at 23.45. The Greater Hybrid Acceptance of this model among groups with Lower Income suggests that the Price Clarity with Cost Transparency of this model should be rated the highest of the four proposed solutions.

c. Strengthening Aftersales Service Reliability and Customer Confidence

After-Sales Service Quality significantly and positively drives the acceptance of Hybrid Vehicles (β = 0.243, Sig. = 0.017). This indicates consumers' latent demand for long-term ownership security for hybrid vehicles. The result of this empirical study indicates the legitimization of the perception of customers' confidence for Toyota based on the presence of an extensive network of dealerships and service stations. As an element of the competition, it has operational utility.

The result of this empirical study indicates the presence of quality after-sales services among competitors in the hybrid vehicle market. The effect of after-sales services on customers' acceptance of hybrid vehicles in the market indicates customers' confidence in the long-term investment of ownership of hybrid vehicles.

To maintain this competitive advantage in the market, Toyota should strengthen after-sales readiness for hybrid vehicles through the training of technicians, the establishment of dedicated services for hybrid vehicles, and the availability of parts. Standardization in service quality among dealerships should be observed to ensure customers in remote and urban locations receive the same quality service.

In addition, Toyota could build customer trust through active educational initiatives on hybrid battery durability and maintenance, as well as their coverage under warranties. Hybrid ownership directions could be integrated into customer handover processes, service reminders, and digital post-sale applications. Enhanced support for customers after purchase may help customers trust Toyota and lessen their concerns on using hybrid vehicles.

The ANOVA results build a stronger case for a nation-wide and standard approach to this initiative. Because acceptance of hybrid vehicles is similar across age cohorts and income groups, this service reliability and confidence building is relevant to all consumer market segments, and therefore, a standard nation-wide approach rather than a targeted demographically segmented approach is warranted.

d. Responding to BEV-Oriented Government Incentives Through Strategic Communication

Government Incentives registered as the single strongest predictor of Hybrid Vehicle Acceptance across all six variables (β = 0.440, Sig. = 0.000) — a finding that carries significant strategic implications. Rather than undermining hybrid acceptance as originally hypothesised, the government's electrification agenda appears to generate broad consumer confidence in electrified mobility that spills over positively to hybrid vehicles. This suggests that Toyota's hybrid strategy is not operating against the institutional environment, but within it — and that actively shaping that environment represents Toyota's highest-leverage strategic opportunity."

The results of this research show that Government Incentives have a substantial impact on Hybrid Vehicle Acceptance. This study shows that consumers know that the current incentives and policy support for electrification are more linked with Battery Electric automobiles (BEVs) than with hybrid automobiles. While these policies are supportive of Indonesia’s long-term electrification goals, the findings also indicate that hybrid vehicles are still seen by many consumers as a feasible and relevant mobility solution in present Indonesian market conditions.

Toyota has to improve its strategic communication on the role of hybrid vehicles in the wider electrification shift in Indonesia. Instead of promoting hybrids as a direct competition to BEVs, Toyota should promote hybrids as complementary transitional mobility solutions that help ease the transition to electrification as the infrastructure and customer readiness mature. This method can be useful to assist enhance public understanding that electrification pathways can emerge in incremental steps based on market preparedness and customer needs.

Furthermore, Toyota may engage more with policy officials, automobile groups and other industry players to raise public awareness on the role of hybrid technology in the mobility transformation in Indonesia. Educational communications might highlight how hybrid vehicles give the benefit of improved fuel economy and emissions reduction, while also providing the convenience of practical ownership without the need for complete charge.

The ANOVA results further support the broad, inclusive framing of this communication endeavor. The fact that hybrid acceptance is consistent across all age groups, including the Young Adults segment (mean = 23.31), which might be expected to show stronger BEV alignment, suggests a nationally inclusive electrification narrative that includes hybrid vehicles has broad-based resonance, not simply among older or higher-income consumers. With more flexible and balanced strategic communication, Toyota could reinforce the long-term significance of hybrid vehicles while maintaining its strategic position within Indonesia's expanding electrification ecosystem.

The overall recommended business solutions highlighted the need of preserving the strategic fit of Toyota in the changing landscape of electrification in Indonesia. Based on the regression results, it shows that the practical value of ownership, affordability, reliability, and trust in long-term ownership still matters to Indonesian consumers when considering hybrid vehicles. The One-Way ANOVA results further validate that these priorities are similar across age and economic groups, suggesting a broad-based strategy approach. This enables Toyota to lean on its existing strengths rather than to compete head-on with aggressive BEV transformation, because hybrid vehicles can be promoted as practical transitional mobility solutions that can slowly evolve towards future electrification developments and changing consumer expectations.

Implementation Plan and Justification

Building on the four business solutions outlined in Section IV.8, the following implementation plan operationalises each recommendation using the 5W + 1H framework — What, Why, Who, Where, When, and How. The plan is designed to be actionable within Toyota Indonesia's current organisational capacity and aligned with the external stakeholder landscape identified throughout this study.

The One-Way ANOVA post-hoc analysis — confirming no significant difference in Hybrid Vehicle Acceptance across age groups (F = 0.705, Sig. = 0.497) or monthly income brackets (F = 1.573, Sig. = 0.213) — validates a broad-based rather than segment-specific implementation approach for all four initiatives. Each initiative is therefore designed for universal applicability across Toyota's consumer demographic spectrum. The directional mean gap for the Lower-Middle Income group (mean = 22.09 vs. 23.45–23.47 for higher income groups), while statistically non-significant, reinforces the prioritisation of Initiative 2 as the most urgently needed consumer-facing intervention.

Table 1. Implementation Roadmap

Initiative	Year 1 Early	Year 1 Mid	Year 1 Late	Year 1 End	Year 2 Early
Hybrid Brand Narrative	Campaign concept & dealership materials	Sales consultant training	Consumer-facing rollout	Semi-annual evaluation	Ongoing refinement
TCO Transparency Tool	TCO tool & data validation	Staff training & showroom integration	Digital launch	Annual benchmark update	Continuous promotion

Aftersales Standardisation	Technician certification expansion	Secondary city rollout	Post-purchase education integration	National review	Full nationwide rollout
Govt. Stakeholder Communication	Stakeholder engagement & framework	GAIKINDO advocacy	Consumer education launch	Geographic scaling	Continuation

■ Primary action ■ Active rollout ■ Monitoring & continuation

Source: Author

Strengthening Hybrid Positioning as Practical Transitional Mobility

The first initiative addresses Brand Positioning, which regression analysis identified as a significant positive driver of hybrid vehicle acceptance (β = 0.276, Sig. = 0.031). This initiative is led by PT Toyota-Astra Motor's Marketing Division in coordination with the Auto2000 frontline sales team, and is targeted for development in Year 1 Early with consumer-facing rollout by Year 1 Mid.

Table 2. Initiative 1 Overview

Dimension	Detail
What	A consumer-oriented communication and dealership experience initiative repositioning Toyota hybrids as practical, worry-free mobility solutions, combining fuel efficiency, reliability, and flexibility without charging dependency. Making them the most suitable choice for current Indonesian market conditions.
Why	Brand Positioning was confirmed as a significant positive driver of hybrid acceptance (β = 0.276, Sig. = 0.031). Toyota's existing campaigns ("It's Time for Everyone", "Beyond Zero") operate at the corporate identity level but do not directly address the consumer's purchase-level question of why a hybrid is the right choice for them today. Auto2000 Account Executives are already trained internally to compare hybrid models against BEV competitors; however, this capability remains a backend sales competency and has not been formalised into a consistent, publicly visible framework. Initiative 1 proposes to formalise this existing competency into a standardised comparison framework applied consistently across all branches. The ANOVA finding that acceptance does not differ across age groups — including Young Adults (mean = 23.31) — confirms this broad narrative is effective across the full consumer age spectrum without requiring age-specific targeting. a private sales tool into a public trust signal at the moment of purchase decision.
Who	Led by PT Toyota-Astra Motor (TAM) Marketing Division. Executed through Auto2000 frontline sales teams and Toyota's digital content channels. Input from TMMIN for product accuracy in communication materials.
Where	Toyota's digital platforms (Instagram, YouTube, TikTok, website) and Auto2000 showrooms nationwide. Priority activations at GIIAS and major urban markets in Jabodetabek, Surabaya, and Bandung.
When	Campaign concept and dealership materials developed in Year 1 Early. Sales consultant training completed by Year 1 Mid. Consumer-facing rollout begins Year 1 Late with semi-annual performance reviews.

How	Develop a "Why Hybrid Now" content series using data-driven storytelling on fuel savings, five-year cost comparisons, and infrastructure independence. Update dealership communication to be practical and ownership-oriented — utilizing demonstration units, ownership simulations, and educational test-drive programs. Train Auto2000 Account Executive with standardized, evidence-based comparison scripts addressing common hybrid vs. BEV concerns.

Source: Author

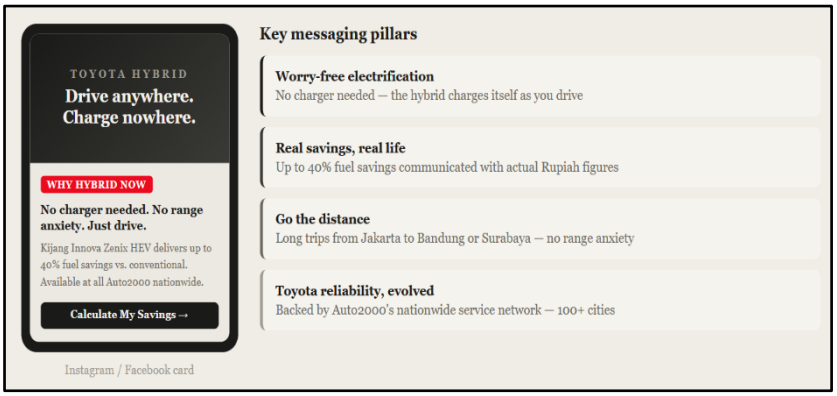

Figure 1. Social Media Content Card as Campaign Concept Mockup
Source: Author

Enhancing Price Value Communication and Ownership Transparency

The second initiative deals with Price Perception, the variable with the highest internal correlation with hybrid acceptance of the ones we tested (β = 0.305, Sig. 0.007). It is the responsibility of the Product Planning and Digital Marketing teams of TAM, and development of the tools is planned to begin in Year 1 Early with integration into the showrooms planned for Year 1 Mid in line with the highest demand in the automotive buying season.

Table 3. Initiative 2 Overview

Dimension	Detail
What	A multi-channel ownership transparency initiative anchored by an interactive Total Cost of Ownership (TCO) calculator that communicates the long-term economic value of hybrid ownership: fuel savings, maintenance efficiency, battery warranty coverage, and resale value stability, compared against both ICE vehicles and BEVs in the Indonesian context.
Why	Price Perception was the strongest internal predictor of hybrid acceptance (β = 0.305, Sig. = 0.007). Consumers evaluate hybrids on overall ownership value, not purchase price alone. While Toyota secured a 3% PPnBM tax incentive for locally produced hybrids, no consumer-facing TCO comparison tool for hybrids vs. BEVs currently exists in Toyota's Indonesian touchpoints, leaving the value perception gap unaddressed at the moment of decision. The ANOVA findings add an important nuance: while no statistically significant income-group difference was found, the Lower-Middle Income group recorded the lowest descriptive mean acceptance score (22.09), suggesting that price transparency is especially pertinent for consumers at the lower end of the income range. This initiative is therefore designated as the highest priority among the four proposed.

Who	Developed by TAM's Product Planning and Digital Marketing Teams, supported by an independent automotive research institution for data credibility. Deployed through Auto2000 sales consultations and Toyota's owned digital channels.
Where	Toyota Astra Motor website (interactive calculator), Auto2000 showroom tablets during sales consultations, and Toyota's social media channels targeting middle-income urban consumers in Jabodetabek and major cities.
When	Tool development and data validation in Year 1 Early. Showroom integration and staff training in Year 1 Mid, timed for peak automotive buying season. Annual benchmark updates to maintain accuracy.
How	Commission an independent study benchmarking 5-year ownership costs for Toyota hybrid models (Kijang Innova Zenix HEV, Yaris Cross HEV) vs. comparable BEVs, accounting for Indonesian fuel costs, electricity tariffs, maintenance, depreciation, and charging infrastructure dependency. Package findings into an interactive calculator allowing consumers to input their own usage profile. Integrate into the standard Auto2000 sales consultation as a personalised comparison tool.

Source: Author

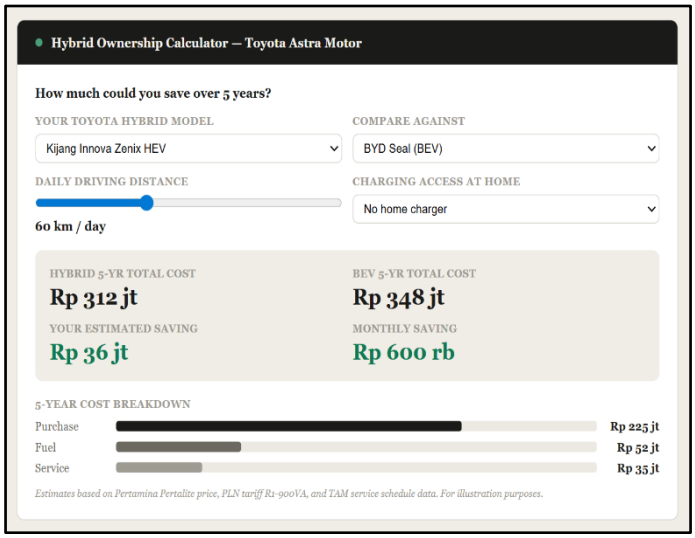

Figure 2. Interactive TCO Calculator Mockup on Auto2000 Website Source: Author

Strengthening After-Sales Service Reliability and Customer Confidence

The third initiative targets After-Sales Service Quality, which was confirmed as a significant positive predictor of hybrid acceptance (β = 0.243, Sig. = 0.017). Implementation is led by TAM's After-Sales Division in coordination with TMMIN's Technical Training Centre, with technician certification expansion beginning in Year 1 Early–Mid and full nationwide standardisation targeted by Year 2 Early.

Table 4. Initiative 3 Overview

Dimension	Detail
What	A structured expansion and standardisation of Toyota's hybrid after-sales ecosystem — building on existing programs (Hybrid Health Check at GIIAS 2025, T-Care, T-OPT) — by introducing formalised fixed-price hybrid maintenance packages, a nationally communicated certified technician tier, and proactive post-purchase engagement through the mTOYOTA app.

Why	After-Sales Service Quality was confirmed as a significant positive driver of hybrid acceptance (β = 0.243, Sig. = 0.017). Toyota already has an early-stage advantage through its Auto2000 network and existing programs, but these lack a formalised fixed-price maintenance package and nationally visible technician certification. The ANOVA finding that acceptance does not differ across age or income groups confirms this initiative should be implemented as a uniform national standard. Service reliability matters equally to all consumer segments, rather than prioritising certain demographics over others.
Who	Spearheaded by TAM's After-Sales Division in coordination with TMMIN's technical training center. Auto2000 service branches are the primary delivery channel. The mTOYOTA app serves as the digital engagement platform for post-purchase communication and proactive service reminders.
Where	Nationwide Auto2000 network, with priority standardisation in secondary cities (Surabaya, Bandung, Semarang, Medan) where hybrid ownership is growing but technician readiness and service awareness are less consistent than in Jabodetabek.
When	Technician certification expansion and parts supply improvements in Year 1 Early–Mid. Post-purchase education integration into delivery and service processes in Year 1 Late. Full nationwide standardisation targeted for Year 2 Early.
How	Introduce clearly branded fixed-price "Hybrid Maintenance Packages" (annual and biennial tiers) complementing T-Care and T-OPT. Establish a formal "Toyota Certified Hybrid Technician" designation visible at service centers as a consumer trust signal. Leverage the mTOYOTA app to proactively notify existing hybrid owners of Hybrid Health Check eligibility and upcoming maintenance milestones, converting the passive program into an active loyalty mechanism.

Source: Author

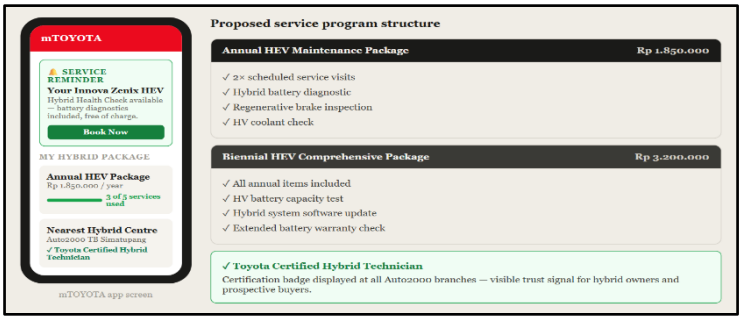

Figure 3. MToyota App Screen Mockup of Hybrid Owner Post-Purchase Flow
Source: Author

Responding to BEV-Oriented Government Incentives Through Strategic Communication

Government Incentives were established as the most significant predictor of hybrid vehicle acceptance, across all regression variables. This is attributed to a strong relationship (β = 0.440, Sig. = 0.000) with the acceptance of hybrid vehicles. This initiative is the responsibility of the Corporate Affairs and Government Relations Division of TAM in collaboration with GAIKINDO. Stakeholder engagement is expected

to be carried out in Year 1 (Early to Mid) and the introduction of consumer-oriented activities will be carried out in Year 1 (Late).

Table 5. Initiative 4 Overview

Dimension	Detail
What	A strategic communication and stakeholder engagement initiative positioning hybrid vehicles as recognised, complementary transitional mobility solutions within Indonesia's national electrification roadmap — ensuring Toyota's hybrid strategy remains publicly credible and policy-aligned as government incentives continue to shift toward BEVs.
Why	Government Incentives was the strongest predictor of hybrid acceptance (β = 0.440, Sig. = 0.000), indicating that perceived government legitimacy of electrification broadly spills over to benefit hybrid acceptance. Toyota already has institutional relationships with Pertamina and GAIKINDO, but these focus on technology development, not consumer-facing hybrid education. The ANOVA finding that acceptance is consistent across all age groups, including Young Adults (mean = 23.31) who are often assumed to prefer BEVs, strengthens the case for a nationally inclusive communication strategy rather than a message targeted specifically at older or higher-income segments. A hybrid-inclusive electrification narrative retains broad relevance across all demographics.
Who	Led by TAM's Corporate Affairs and Government Relations Division, coordinating with GAIKINDO's policy and public communication teams, relevant ministries (Ministry of Industry, Ministry of Transportation), and SOE partners including PLN and Pertamina.
Where	National policy and industry level through GAIKINDO forums and ministerial engagement. Consumer-level through Toyota's owned media, community education events, and co-branded materials distributed via government agency channels — prioritising secondary cities where BEV infrastructure is limited.
When	Stakeholder engagement and internal communication framework in Year 1 Early–Mid. First external-facing activities and industry forum contributions in Year 1 Late. Consumer-facing educational initiatives scaling in Year 2.
How	Develop a consistent narrative framing hybrids as complementary to BEVs within Indonesia's progressive electrification roadmap. Engage GAIKINDO to advocate for public policy communication presenting electrification as a graduated, multi-pathway process. Collaborate with policymakers and industry stakeholders to develop educational content — via automotive association events, government platforms, and Toyota's community programs — explaining hybrid technology's contribution to Indonesia's mobility transition while BEV infrastructure continues to develop.

Source: Author

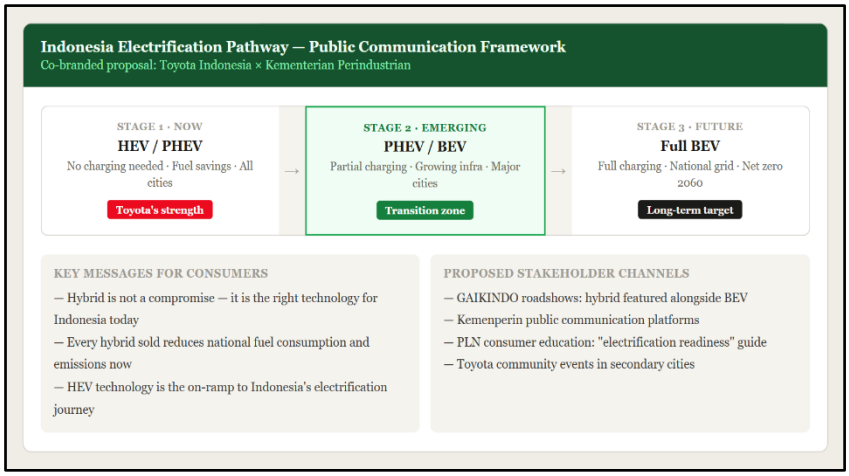

Figure 4. Strategic Communication Framework of Hybrid as A Recognised Electrification Step
Source: Author

4. Conclusion

This study seeks to analyze the factors that affect consumer acceptance of HEVs in the context of Indonesia's current shift to BEVs. The respondents for this study were from urban and semi-urban areas of Indonesia. Focusing on six internal and external variables, this study aimed to identify the external factors related to hybrid vehicle electrification that address customer readiness to accept hybrid vehicles as a mobility option in this transitional phase, and then to model these variables through multiple linear regression analysis.

The results of the analysis verify that four out of the six variables statistically significantly affect the Hybrid Vehicle Acceptance. These variables are Government Incentives, Price Perception, Brand Positioning, and After-Sales Service Quality. The other two variables, namely Infrastructure Readiness and Environmental Concern, were found to be insignificant indicating that the external pressures most often associated with BEV adoption have not yet reached a level that would significantly shift consumer preference away from hybrid vehicles in the current Indonesian context.

Government incentives were the biggest influencer for the acceptance of hybrids, out of all the variables analyzed in this study. While developing the hypothesis, it was thought that there would be a negative correlation in the variables because it was assumed that the hybrid programs would not be advanced due to support for battery electric vehicles. The results of the study show that consumers interpret the government's plans for the electrification of transport as a supportive and progressive approach to electrified mobility, and this perception builds confidence that hybrid vehicles are a good option. In fact, Toyota hybrids appear to benefit from the regulatory environment that is supportive of the electrification of transport, rather than suffering from Measures for Battery Electric Vehicles.

On the other side of the consumers, Price Perception was found to be the strongest among the other three internal factors and showed a high level of price sensitivity among Indonesian consumers. This shows that consumers do not perceive hybrids only from the purchase price, but also from the price they would pay to own it, which includes fuel and maintenance, as well as the time they would invest in the

upkeep of the vehicle. Brand Positioning and After-Sales Service Quality also mentioned positive impacts and represent how Toyota's reputation and its vast networks of dealerships are vital sources of confidence to consumers.

The relative unimportance of Infrastructure Readiness and Environmental Concern is strategically important on its own. Charging infrastructure and Environmental Concern in Indonesia are lagging in development. Though both are developing and lagging, neither have reached a point of actively pushing consumers from hybrids to BEVs. Hybrid vehicles are still seen as a practical step, still something viable, and still, something Toyota can capitalize on, though as time passes and the BEV ecosystem develops, that will be less so.

Additional demographic research also showed that hybrid vehicle acceptance is extremely stable across age groups and income levels. This result dispels the notion that hybrid attraction is concentrated among older or more affluent segments and implies that Toyota's practical value proposition is universally appealing throughout the urban consumer spectrum. Overall, Toyota's hybrid approach still has considerable relevance and consumer-level strategic fit in the current electrification scenario in Indonesia, driven by brand trust, perceived value and service reliability. However, this relevance is conditional. As infrastructure develops, environmental priorities increase, and BEV costs fall, Toyota will need to consistently reinforce and evolve its hybrid positioning to remain competitive in an increasingly electrified market.

In direct response to the research questions posed in Chapter I, this study provides the following answers. First, in response to RQ1, what internal and external factors significantly influence consumer acceptance of Toyota's Hybrid Electric Vehicles, the empirical findings confirm that four of the six hypothesised variables are statistically significant: Government Incentives ($\beta = 0.440$, Sig. = 0.000), Price Perception ($\beta = 0.305$, Sig. = 0.007), Brand Positioning ($\beta = 0.276$, Sig. = 0.031), and After-Sales Service Quality ($\beta = 0.243$, Sig. = 0.017). Infrastructure Readiness and Environmental Concern were not found to be statistically significant. Second, in response to RQ2, to what extent do these factors shape consumer acceptance, the regression model produced an adjusted R^2 of 0.289, indicating that the six independent variables collectively explain 28.9% of the variance in Hybrid Vehicle Acceptance, with Government Incentives emerging as the single strongest predictor overall. Third, in response to RQ3, what strategic recommendations can be derived, this study proposes four actionable business solutions: strengthening hybrid brand positioning as practical transitional mobility, enhancing price value communication and ownership transparency through interactive TCO tools, standardising after-sales service reliability and technician certification nationwide, and engaging policymakers and industry stakeholders to frame hybrid vehicles as a complementary step within Indonesia's national electrification roadmap.

Accordingly, all three research objectives of this study have been achieved. The first objective, to identify the internal and external factors that significantly influence consumer acceptance of Toyota's HEVs, has been fulfilled through the empirical testing of six hypothesised variables via multiple linear regression analysis, which confirmed four statistically significant drivers. The second objective, to examine the extent to which these factors shape consumer acceptance, has been fulfilled through the regression model and One-Way ANOVA post-hoc analysis, which collectively characterise the magnitude, direction, and demographic consistency of each factor's

influence on Hybrid Vehicle Acceptance. The third objective, to provide strategic recommendations for strengthening Toyota's HEV positioning has been fulfilled through the four business solutions and implementation plan presented in Chapter IV, each directly grounded in and traceable to the empirical findings of this study.

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