

CONSUMER INTENTION TO USE ELECTRIC TAXI SERVICES IN INDONESIA: A TAM-TPB STUDY OF GREEN SM WITH TRUST AND ENVIRONMENTAL CONCERN

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Received : 15 June 2026

Accepted : 20 July 2026

Revised : 19 June 2026

Published : 29 July 2026

Abstract

Electrifying app-based mobility services has become a practical route to lower-carbon urban transport in emerging markets. How consumers actually decide to use such services, however, remains under-researched. This study investigates the constructs that shape consumer Intention to use Green SM, Indonesia's first all-electric taxi operator. The analytical framework integrates the Technology Acceptance Model and the Theory of Planned Behavior, extended with Trust and Environmental Concern. Data came from 240 active ride-hailing users in Greater Jakarta, analyzed using Partial Least Squares Structural Equation Modeling with 5,000 bootstrap resamples. Of seven hypotheses tested, four received support. Trust emerged as the strongest predictor of Attitude ($\beta = 0.413$, $f^2 = 0.224$), a pattern that cuts against the usual Perceived Ease of Use and Perceived Usefulness dominance in standard TAM applications. Attitude was the strongest predictor of Behavioral Intention ($\beta = 0.505$, $f^2 = 0.297$), with mediation analysis confirming Attitude as the central pathway through which Trust and Perceived Usefulness translate into Behavioral Intention. The model accounted for 52.8% of variance in Attitude and 46.6% in Behavioral Intention. The findings yield a transferable proposition for emerging markets: provider credibility is the primary lever for converting consumers, not feature parity or environmental appeal.

Keywords: *Behavioral Intention, Electric Taxi, Environmental Concern, TAM-TPB, Trust.*

INTRODUCTION

Indonesia's transportation sector is going through a rapid transformation, with environmental pressure and technological progress pushing the change forward. The shift shows up clearly in the numbers. Electric vehicle sales tripled across 2024, capturing more than 7% of new passenger car sales (IEA, 2025). Private EV adoption tells a different story, however. It remains constrained on several fronts at once. Upfront costs sit well above what conventional alternatives demand. Charging infrastructure is still thin outside major urban centers. Range anxiety persists among potential adopters. Against that backdrop, service-based electric mobility, and electric ride-hailing in particular, offers a strategic pathway that removes ownership barriers while still delivering environmental benefits at scale.

Green SM, a subsidiary of Vietnam's Vingroup, entered the Indonesian market in December 2024 as the country's first all-electric taxi operator (Green SM, 2024; Vingroup, 2024). During the research period, Green SM Indonesia operated solely as an app-based electric taxi service. It had not yet introduced the black-plate ride-hailing car model that Gojek and Grab offer, nor the two-wheeler, food, or delivery services that the operator already runs in its home market of Vietnam and may later expand to Indonesia. The present study therefore focuses specifically on adoption of the electric taxi service. Green SM competes against entrenched local incumbents Gojek, Grab, and Blue Bird, which have built consumer trust over a decade or more of operations. The company's market entry takes place within a complex context of strong ride-hailing adoption combined with significant electric vehicle barriers, raising the question of which adoption levers consumers actually respond to.

The scale of the market raises the stakes for any new entrant. By 2024, smartphone penetration in Indonesia had reached roughly 68% nationally, with the figure climbing above 80% in urban areas, which has enabled rapid uptake of app-based mobility services (Statista, 2024). The ride-hailing market itself was opened by Gojek in 2015 and Grab in 2016. By 2023, it had grown to approximately USD 2.8 billion with annual growth running above 15%, and penetration in Jakarta, Surabaya, and Bandung had already exceeded 60% (Statista, 2023). Adoption

concentrates among consumers aged 18 to 35, urban professionals, and higher-income households. Convenience is cited by around 72% of users as the primary motivation for using these services (Statista, 2024). Green SM must therefore persuade users to switch from incumbents they have already come to trust. Existing research on EV adoption in emerging markets has concentrated predominantly on private vehicle ownership decisions, where price sensitivity and infrastructure perceptions tend to dominate the consumer calculus (Permana & Wisnalmawati, 2025; Saputra & Andajani, 2023). The service-based EV adoption literature, by contrast, has developed comparatively slowly. The lag is particularly pronounced for safety-sensitive categories like ride-hailing, where consumers must depend on the operator for driver quality, fare integrity, and operational reliability. This gap matters because the adoption dynamics for owning an EV differ fundamentally from those of using an EV-based service. The latter shifts the consumer's attention away from financial commitment and toward provider trust and the texture of the service experience itself.

Despite these stakes, the consumer side of all-electric ride-hailing adoption in emerging markets has scarcely been studied at all. Existing EV research concentrates on private vehicle ownership in developed economies. No study identified in this review has empirically tested how provider trust competes with classical technology-acceptance determinants when consumers adopt an operating all-electric ride-hailing service in an emerging market. This study addresses three research questions. First, which constructs in the integrated TAM-TPB framework, namely Perceived Usefulness, Perceived Ease of Use, Trust, and Environmental Concern, most strongly shape Attitude toward Green SM's electric taxi service? Second, which constructs most strongly drive Behavioral Intention to use the service? Third, how can these empirical findings inform an effective marketing strategy for Green SM in Indonesia? The study extends the Technology Acceptance Model and Theory of Planned Behavior with Trust and Environmental Concern as theoretically grounded additions for the service-based EV context. The contribution is both empirical evidence and a prioritized strategic agenda for new entrants facing established incumbents in safety-sensitive service categories.

LITERATURE REVIEW

Integrated TAM-TPB Framework

The Technology Acceptance Model (TAM), proposed by Davis (1989), holds that Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) shape Attitude (ATT), which in turn influences Behavioral Intention (BI). The Theory of Planned Behavior (TPB), put forward by Ajzen (1991), adds Subjective Norm (SN) and Perceived Behavioral Control (PBC) as additional factors that jointly influence BI. The integrated TAM-TPB framework has been widely applied in technology adoption research within the transportation domain.

Drawing on this integrated framework, the present study proposes five hypotheses derived from the classical TAM-TPB constructs. Perceived Usefulness is defined as the degree to which a consumer believes that using Green SM's service would enhance their travel experience (Davis, 1989). Perceived Ease of Use is defined as the degree to which a consumer believes that using the service would be free from effort (Davis, 1989). From the TPB side, Attitude, Subjective Norm, and Perceived Behavioral Control are each expected to drive Behavioral Intention positively, with Subjective Norm carrying particular weight in the collectivist Indonesian context where peer recommendations strongly shape platform selection.

H1: Perceived Usefulness positively influences Attitude toward Green SM.

H2: Perceived Ease of Use positively influences Attitude toward Green SM.

H3: Attitude positively influences Behavioral Intention to use Green SM.

H4: Subjective Norm positively influences Behavioral Intention to use Green SM.

H5: Perceived Behavioral Control positively influences Behavioral Intention to use Green SM.

The classical TAM-TPB framework captures the cognitive and social foundations of technology adoption, but the service-based electric taxi context calls for additional theoretical inputs. Two extensions are warranted. First, because Green SM's value proposition centers on environmental benefits, Environmental Concern emerges as a theoretically grounded antecedent of Attitude that the original framework does not address. Second, because the service is safety-sensitive, with consumers depending on the operator for personal safety, fare integrity, and operational reliability, Trust enters as a central additional construct.

Environmental Concern in EV Adoption

Environmental Concern (EC) is conceptualized as an individual's awareness of ecological problems and their willingness to act on them (Dunlap & Jones, 2002). Stern (2000) draws a useful additional distinction, separating environmental concern as a general attitude from more specific beliefs about consequences and personal

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responsibility. Studies on green consumption generally treat Environmental Concern as an antecedent of pro-environmental attitudes. However, a persistent value-action gap has been documented across emerging markets, where stated environmental values do not consistently translate into corresponding behaviors (Blake, 1999; Kollmuss & Agyeman, 2002). Within Indonesia specifically, Permana and Wisnalmawati (2025) found that Environmental Concern influences EV purchase intention only indirectly through Attitude, and even then it is further constrained by perceptions of charging infrastructure. The present study extends that line of inquiry by testing whether the same indirect pattern holds once the economic barriers to vehicle ownership are removed through service-based access. H6: Environmental Concern positively influences Attitude toward Green SM.

Trust in Service-Based Electric Mobility

Consumer Trust (TR) is defined as consumer confidence in a service provider, taking in beliefs about its technical competence, its care for customer welfare, and its adherence to acceptable standards (Mayer et al., 1995). For new entrants in safety-sensitive service categories, this form of trust functions as a foundational mechanism for customer acquisition. Eccarius and Chen (2024) verified the role of Trust in the EV carsharing context, and Imaduddin et al. (2025) validated a parallel mechanism in Indonesia's on-demand EV charging service, where trust antecedents anchored in service quality, perceived security, and ease of use significantly drove adoption intention. The present study tests whether this provider-trust logic transfers to an integrated electric ride-hailing setting, where the dimensions of consumer reliance extend further to include driver safety, fare integrity, and full-process service reliability. H7: Trust positively influences Attitude toward Green SM. The full set of hypothesized relationships is summarized in the conceptual framework (Image 1).

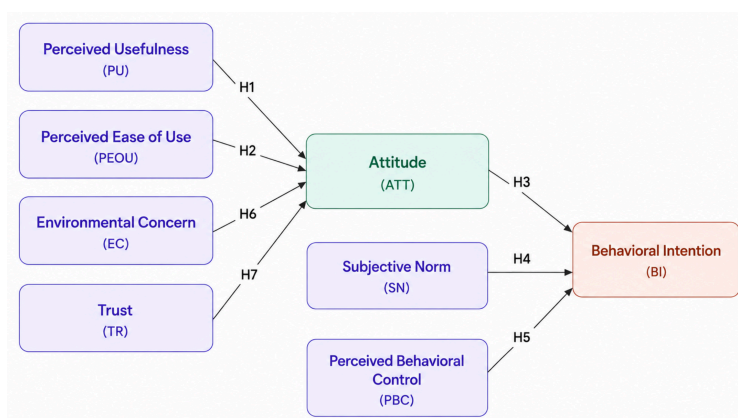


Image 1: Conceptual Research Framework

METHOD

Research Design and Sample

This study adopted a quantitative cross-sectional survey design. The target population consisted of active ride-hailing users aged 18 years and above residing in the Greater Jakarta Metropolitan Area (Jakarta, Bekasi, Depok, Bogor, and Tangerang). Screened convenience sampling was used, with respondents recruited through an online questionnaire distributed via social platforms and user communities. Eligibility was confirmed through mandatory screening questions on age, location, and recent ride-hailing usage. To qualify, respondents had to have used a ride-hailing service at least once in the six months prior to participation.

Data were collected in two waves. The first wave ran in February 2026 and yielded 48 responses. The second wave ran in April 2026 and added 192 responses. After excluding one questionnaire for which informed consent was not obtained, 240 valid samples were retained for analysis. This sample size exceeds the minimum thresholds derived from G*Power 3.1 ($n = 153$ for $f^2 = 0.15$, $\alpha = 0.05$, power = 0.95, with seven predictors), calculated following Cohen's (1988) conventions for medium effect sizes, the ten-times rule ($n = 40$), and PLS-SEM simulation evidence supporting 150 to 200 observations for moderately complex models (Hair et al., 2019; Kock & Hadaya, 2018).

Measurement Instrument

All constructs were measured using multi-item reflective scales adapted from established academic literature. Perceived Usefulness, Perceived Ease of Use, and Attitude items were drawn from Davis (1989). Subjective Norm, Perceived Behavioral Control, and Behavioral Intention items were drawn from Ajzen (1991).

Trust items were drawn from Mayer et al. (1995). Environmental Concern items were drawn from Dunlap and Jones (2002). All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). All scale items underwent translation and localization adjustments through back-translation to ensure semantic equivalence in the Indonesian language version.

Data Analysis

This study used SmartPLS 4.0 to conduct Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis. PLS-SEM was selected for four reasons grounded in Hair et al. (2019). First, the study is prediction-oriented. Second, the model includes multiple constructs and mediating paths. Third, PLS-SEM imposes few demands on measurement scales or residual distributions. Fourth, it remains stable with smaller samples and complex models. The analytical procedure followed a two-stage approach, with measurement model evaluation preceding structural model testing, and used 5,000 bootstrap resamples with bias-corrected and accelerated confidence intervals. Multi-group analysis (MGA) following Henseler et al. (2016) was also conducted to test the robustness of structural relationships across consumer subgroups.

Two layers of common method bias controls were applied. At the procedural level, respondents were guaranteed anonymity, and survey item order was randomized. At the statistical level, Harman's single-factor test confirmed that no single factor accounted for more than 50% of the total variance, and a full collinearity assessment was conducted following Kock (2015). All inner-model variance inflation factor (VIF) values fell between 1.140 and 1.698, well below the 3.3 threshold, indicating that common method bias is not a concern in this dataset.

RESULTS AND DISCUSSION

Descriptive Statistics and Measurement Model Assessment

Construct-level descriptive statistics (Table 1) showed Perceived Behavioral Control with the highest mean ($M = 4.101$), suggesting that respondents already perceived themselves as meeting the conditions to use the service. Subjective Norm registered the lowest mean ($M = 3.287$), indicating relatively weak social endorsement. Behavioral Intention sat at a moderate level ($M = 3.426$), pointing to the gap between trial use and sustained adoption as the key challenge in this market.

Table 1. Construct Descriptive Statistics and Ranking

Construct	Mean	Std. Dev.	Interpretation
Perceived Behavioral Control	4.101	0.825	Highest
Environmental Concern	3.954	0.825	High
Perceived Ease of Use	3.839	0.828	High
Attitude	3.685	0.809	Moderate-High
Trust	3.665	0.855	Moderate-High
Perceived Usefulness	3.560	0.853	Moderate
Behavioral Intention	3.426	0.962	Moderate
Subjective Norm	3.287	0.843	Lowest

Demographic characteristics of the 240 valid respondents are summarized in Table 2. Two indicators were removed during measurement model refinement: PU5 (loading 0.544) and EC2 (loading 0.575), both falling below the 0.708 threshold for item reliability. After removal, the measurement model was assessed across four standard PLS-SEM criteria following Hair et al. (2019): item reliability, internal consistency reliability, convergent validity, and discriminant validity. All retained indicators met the required thresholds. Internal consistency was confirmed through Cronbach's Alpha and Composite Reliability (ρ_c). Convergent validity was confirmed through Average Variance Extracted ($AVE > 0.50$). Discriminant validity was examined through two complementary methods: Heterotrait-Monotrait ratio (HTMT) and the Fornell-Larcker criterion. All indicators met the required standards, providing a sound foundation for structural model testing.

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Table 2. Respondent Demographic Profile (n = 240)

Characteristic	Category	n	%
Age Group	18-25 years	58	24.2%
	26-35 years	163	67.9%
	36-45 years	17	7.1%
	46-55 years	2	0.8%
Gender	Male	122	50.8%
	Female	118	49.2%
Education	Senior High School	5	2.1%
	Diploma (D3/D4)	8	3.3%
	Bachelor (S1)	200	83.3%
	Master (S2)	26	10.8%
	Doctorate (S3)	1	0.4%
Occupation	Private Sector Employee	183	76.3%
	Civil Servant / Military / Police	13	5.4%
	Professional (doctor, lawyer, etc.)	12	5.0%
	Student / Not employed / Other	32	13.3%
Monthly Income	Below IDR 3 million	13	5.4%
	IDR 3-5 million	7	2.9%
	IDR 5-10 million	65	27.1%
	IDR 10-20 million	67	27.9%
	Above IDR 20 million	51	21.3%
	Prefer not to say	37	15.4%

Table 3. Measurement Model Evaluation

Construct	Items	Loading range	α	CR (rho_c)	AVE
Perceived Usefulness	4	0.838-0.874	0.881	0.918	0.737
Perceived Ease of Use	4	0.870-0.905	0.916	0.941	0.799
Attitude	4	0.879-0.910	0.919	0.943	0.805
Subjective Norm	4	0.831-0.871	0.868	0.910	0.716
Perceived Behavioral Control	4	0.815-0.874	0.870	0.911	0.720
Environmental Concern	3	0.799-0.888	0.814	0.890	0.729
Trust	4	0.864-0.921	0.924	0.947	0.816
Behavioral Intention	3	0.862-0.918	0.879	0.925	0.805

Table 4. Discriminant Validity (Heterotrait-Monotrait Ratio)

	ATT	BI	EC	PBC	PEOU	PU	SN	TR
ATT	-							
BI	0.724	-						
EC	0.405	0.331	-					
PBC	0.379	0.315	0.397	-				
PEOU	0.471	0.419	0.382	0.524	-			
PU	0.685	0.678	0.441	0.446	0.509	-		
SN	0.655	0.609	0.403	0.311	0.379	0.619	-	
TR	0.710	0.675	0.371	0.393	0.477	0.637	0.633	-

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Table 5. Discriminant Validity (Fornell-Larcker Criterion)

	ATT	BI	EC	PBC	PEOU	PU	SN	TR
ATT	0.897							
BI	0.655	0.897						
EC	0.351	0.282	0.854					
PBC	0.339	0.282	0.333	0.849				
PEOU	0.433	0.384	0.328	0.474	0.894			
PU	0.620	0.600	0.381	0.396	0.457	0.858		
SN	0.587	0.536	0.343	0.271	0.339	0.544	0.846	
TR	0.656	0.608	0.323	0.355	0.440	0.579	0.568	0.903

Descriptive Statistics and Measurement Model Assessment

Collinearity assessment showed all inner-model VIF values ranged from 1.140 to 1.698, well below the 3.3 threshold (Kock, 2015), ruling out multicollinearity concerns. The structural model results are summarized in Table 6 and visualized in Image 2.

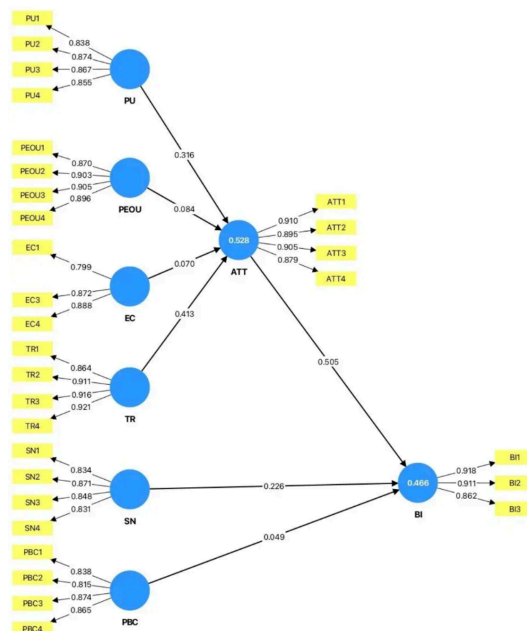


Image 2: PLS-SEM Structural Model Results

Table 6. Structural Path Coefficients and Hypothesis Testing

Hyp.	Path	β	t-stat	p-value	f^2	Decision
H1	PU $\rightarrow$ ATT	0.316	4.902	< 0.001	0.125 (medium)	Supported
H2	PEOU $\rightarrow$ ATT	0.084	1.313	0.189	0.011 (negligible)	Not Supported
H3	ATT $\rightarrow$ BI	0.505	7.980	< 0.001	0.297 (medium)	Supported
H4	SN $\rightarrow$ BI	0.226	3.374	0.001	0.062 (small)	Supported
H5	PBC $\rightarrow$ BI	0.049	0.966	0.334	0.004 (negligible)	Not Supported
H6	EC $\rightarrow$ ATT	0.070	1.448	0.148	0.008 (negligible)	Not Supported
H7	TR $\rightarrow$ ATT	0.413	5.436	< 0.001	0.224 (medium)	Supported

Of the seven research hypotheses tested, four received statistical support. Within the structural model, Trust ($\beta = 0.413$) and Attitude ($\beta = 0.505$) had the largest path coefficients. The three non-significant paths all carried coefficients below 0.1 and f^2 values below 0.02, indicating an absence of medium-to-large effects rather than evidence of null relationships.

The structural model demonstrated sufficient explanatory power. For Attitude, $R^2 = 0.528$ (adjusted $R^2 = 0.519$). For Behavioral Intention, $R^2 = 0.466$ (adjusted $R^2 = 0.458$). Following the PLSpredict procedure of Shmueli *et al.* (2019), assessment yielded positive Q^2 predict values of 0.495 for Attitude and 0.433 for Behavioral Intention, both exceeding the naive mean benchmark and confirming out-of-sample predictive capability.

Table 7. Effect Size, Explanatory Power, and Predictive Relevance

Path / Construct	f^2	f^2 Assessment	R^2 (Adj.)	Q^2 predict
PU → ATT	0.125	Medium		
PEOU → ATT	0.011	Negligible	ATT:	ATT:
EC → ATT	0.008	Negligible	0.528 (0.519)	0.495 (positive)
TR → ATT	0.224	Medium		
ATT → BI	0.297	Medium	BI:	BI:
SN → BI	0.062	Small	0.466 (0.458)	0.433 (positive)
PBC → BI	0.004	Negligible		

Mediation analysis (Table 8) confirmed Attitude as the central mediator in the model. The indirect effects of Trust and Perceived Usefulness on Behavioral Intention through Attitude were $\beta = 0.209$ and $\beta = 0.160$ respectively, both significant at $p < 0.001$. Following the mediation classification framework of Zhao, Lynch, and Chen (2010), both indirect effects qualify as indirect-only mediation, since the corresponding direct effects (PU → BI, TR → BI) were not separately significant once Attitude was included in the model. This indicates that interventions targeting Behavioral Intention must work through Attitude as the primary mediating pathway. To test the robustness of these relationships across consumer subgroups, MGA was conducted using two grouping variables: Green SM experience (existing users vs aware non-users) and income level (above vs below IDR 10 million). Henseler's permutation procedure with 5,000 resamples found that the Trust to Attitude path did not differ significantly between groups in either comparison ($p = 0.591$ for experience; $p = 0.721$ for income), confirming that the dominance of Trust is not an artifact of sample composition. The Perceived Usefulness to Attitude path was significantly stronger for existing users than for aware non-users ($\beta = 0.409$ vs 0.149, $p = 0.037$), consistent with the difference between experience-based and expectation-based evaluation.

Table 8. Specific Indirect Effects (Mediation Analysis)

Indirect Path	β (indirect)	t-stat	p-value	95% CI	Decision
TR → ATT → BI	0.209	4.338	< 0.001	[0.124, 0.301]	Significant
PU → ATT → BI	0.160	3.896	< 0.001	[0.087, 0.241]	Significant
PEOU → ATT → BI	0.042	1.304	0.192	[-0.022, 0.108]	Not Sig.
EC → ATT → BI	0.035	1.407	0.160	[-0.014, 0.089]	Not Sig.

Trust and Attitude as the Strongest Drivers

Trust emerged as the strongest predictor of Attitude in the integrated TAM-TPB framework ($\beta = 0.413$, $f^2 = 0.224$), exceeding the combined effect of Perceived Usefulness and Perceived Ease of Use. This finding departs from the standard TAM conclusion in consumer technology contexts, where Perceived Ease of Use and Perceived Usefulness typically dominate as adoption drivers. In safety-sensitive service categories, where consumers must rely on the provider for personal safety, fare integrity, and operational reliability, Trust takes priority over perceptions of ease or functional utility. This conclusion aligns with Eccarius and Chen (2024), who identified Trust as a necessary condition for electric carsharing adoption in Taiwan, and the present study extends that finding to the electric ride-hailing market in Indonesia.

Comparing the findings of this study with previous research strengthens the academic contribution. Permana and Wisnalmawati (2025), studying private EV purchase intention in Indonesia, found that price sensitivity and perceived infrastructure were the core limiting factors, while Environmental Concern operated only indirectly. After removing ownership barriers through service-based access, the present study finds that the dominant limiting factor shifts to provider trust. This connects two streams of literature that have previously been treated separately: private EV ownership and service-based electric mobility.

Perceived Usefulness was identified as a significant secondary driver of Attitude ($\beta = 0.316$, $f^2 = 0.125$). However, its construct mean was the lowest among the predictors ($M = 3.560$), indicating that functional value matters but has not yet been clearly communicated relative to incumbents. Stronger communication of functional advantages is needed to lift this indicator.

Non-Significant Paths: Ceiling Effects and the Value-Action Gap

Three hypotheses, H2, H5, and H6, did not reach statistical significance but still hold explanatory value. For Perceived Ease of Use, item means ranged narrowly from 3.83 to 3.85 (overall $M = 3.839$) with extremely small variance among respondents. As Venkatesh *et al.* (2003) noted, ease of use becomes a baseline expectation rather than a decision factor once users are experienced with a technology. Among experienced ride-hailing users in this sample, ease of use functions as a hygiene factor rather than a differentiator, producing a ceiling effect that left insufficient variance to explain differences in Behavioral Intention.

Perceived Behavioral Control showed the same pattern. PBC registered the highest construct mean in the model ($M = 4.101$), indicating that all sample members already perceived themselves as possessing the core resources required to use ride-hailing services. The resulting ceiling effect means that practical resource barriers do not produce meaningful differences in Behavioral Intention in this segment.

The direct effect of Environmental Concern on Attitude was not statistically significant ($\beta = 0.070$, $p = 0.148$), despite a high construct mean ($M = 3.954$). This pattern aligns with the value-action gap documented for price-sensitive emerging markets (Blake, 1999), and replicates the equivalent finding from Permana and Wisnalmawati (2025) in the Indonesian EV context. Environmental Concern appears to operate indirectly rather than directly on Attitude formation in this domain.

Strategic Implications

Based on the empirical findings, a prioritized implementation plan is proposed for Green SM, with priority ranking grounded in the strength of each empirical pathway. The highest-priority intervention, the Green SM Assurance Program ($\beta = 0.413$, $f^2 = 0.224$), is scheduled to launch in Q3 2026 and includes measures such as driver certification and service transparency disclosures. The second-priority intervention, a Functional Value Communication Campaign, is scheduled for Q4 2026 and aims to strengthen Perceived Usefulness through targeted communication of functional and environmental benefits. The third intervention, Social Proof and Community Amplification, is planned for Q1 to Q2 2027 and leverages Subjective Norm through tiered referral incentives, repositioning the existing Green4Biz platform as a dual-purpose channel that also drives individual conversion, and a community ambassador program.

Each intervention is paired with tracking indicators aligned to its core impact pathway. The Assurance Program tracks post-trip monthly survey Trust scores and complaint resolution duration, both linked to the Trust pathway. The Functional Value Communication Campaign tracks brand awareness among working adults aged 26 to 35 and engagement with carbon-saving features, both linked to the Perceived Usefulness pathway. The Social Proof program tracks referral conversion rates and Green4Biz-driven individual sign-ups, both linked to the Subjective Norm pathway. Investment is allocated according to the relative magnitude of empirical path coefficients to avoid equal distribution of resources across interventions of unequal expected impact.

CONCLUSION

This study takes Green SM, Indonesia's first all-electric taxi operator, as its empirical setting. Using an integrated TAM-TPB framework extended with Trust and Environmental Concern, the analysis identifies Trust as the dominant predictor of Attitude, a finding that diverges from the standard TAM pattern in which Perceived Ease of Use and Perceived Usefulness usually lead. This pattern applies specifically to safety-sensitive electric mobility scenarios, where consumers must depend on the operator for personal safety, fare integrity, and operational reliability. Mediation analysis confirms Attitude as the central pathway through which Trust and Perceived Usefulness translate into Behavioral Intention.

Theoretical Contribution

This study makes three theoretical contributions to the field of consumer adoption of electric mobility services.

First, it clarifies a scope condition for the integrated TAM-TPB framework. In the safety-sensitive, service-oriented electric mobility scenario, the influence weight of Trust exceeds that of Perceived Ease of Use and runs

comparable to that of Perceived Usefulness. The weights of TAM's determining factors are therefore not fixed across all scenarios, but depend on the dependency relationship between consumers and service providers. This proposition awaits cross-scenario verification in future research. Second, the study extends the conclusions of Permana and Wisnalmawati (2025). Even when the economic barrier of private vehicle ownership is removed through service-based access, the indirect role of Environmental Concern persists. The value-action gap for electric mobility in Indonesia appears to be structural rather than purely financial.

Third, to the best of the authors' knowledge, this paper provides the first empirical evidence on consumer Intention to use an all-electric taxi service launched by a new foreign entrant in the Indonesian market, which has long been dominated by local service providers. Existing regional EV research has concentrated on private electric vehicle purchases, where the core influencing factors are vehicle price and charging access, while other service-oriented studies have examined ride-hailing and on-demand charging in other markets. The present study finds that in this specific scenario, Trust in service providers, rather than cost or infrastructure, is the decisive lever for Behavioral Intention.

Limitations and Future Research

Several limitations warrant explicit discussion. First, the Trust finding (H7) may partly reflect platform-mediated credibility, as GoGreen SM had been integrated into the Gojek super-app for approximately eight months by the time of data collection; future studies should disentangle service-level trust from platform-level trust. Second, the single-context, single-sample design prevents cross-context comparison and moderator effect testing, and the cross-sectional design supports only correlational interpretation rather than causal inference. Future research using longitudinal designs could track how consumer attitudes and behavioral intentions evolve as the market matures. Third, 57.1% of respondents were existing Green SM users, whose prior usage experience may have strengthened their Trust judgments; the multi-group analysis reported in Section 4.2 confirmed that the Trust to Attitude path holds robustly across both groups, mitigating but not fully eliminating this concern. Fourth, the sample was drawn entirely from the Greater Jakarta Metropolitan Area, which limits generalizability to secondary cities such as Surabaya, Bandung, and Medan, where competitive intensity and infrastructure maturity differ. Fifth, the study relies on single-source self-report data, and although procedural and statistical controls were applied, common method bias cannot be fully ruled out.

These limitations point to four corresponding directions for future research. First, supply-side research on driver willingness to operate electric vehicles would complement the present passenger-focused study. Second, cross-market comparative studies across Southeast Asia, conducted under the same operator setup, would test whether the trust-driven adoption pattern identified in Indonesia generalizes to other emerging markets. Third, experimental designs could clarify the causal mechanism of trust formation, moving the analysis from correlational evidence toward causal inference. Fourth, while the case examined is Indonesian, the core finding has potential transferability to other emerging markets in South and Southeast Asia, where consumers face similar constraints including limited charging infrastructure, high price sensitivity, and entrenched incumbent dominance. Verifying brand credibility underpinned by provider trust as the primary conversion lever in those settings remains an open question for future research.

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