

Factors Affecting Commuters on the Usage Intention of MRT-3 in EDSA, Philippines: A PLS-SEM Approach

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Abstract

Despite the MRT-3 serving as a high-capacity solution to EDSA's severe congestion, the sustained high volume of private vehicle usage necessitates a deeper behavioral analysis of commuter choices and preferences to enhance public transportation appeal and contribute to a user-centric and efficient transport system. This study utilizes an extended Theory of Planned Behavior, incorporating Past Behavior (PB), Perceived Service Quality, Environmental Concerns (EC), First and Last Mile Connectivity, and Perceived Alternatives (PA), to analyze survey data from 201 commuters via PLS-SEM. The findings uncover a distinct "psychology of pragmatic resilience." Challenging classical theory, Attitude is insignificant in predicting usage. This reflects *pagkamatiisin* (endurance), as commuters normalize adversity rather than evaluating the system based on satisfaction. Instead, Usage Intention is primarily driven by Perceived Behavioral Control, reinforced by PB and PA. This highlights a reliance on *diskarte* (strategic coping), where decisions depend on an individual's capability to navigate constraints rather than comfort. Additionally, EC drives Social Norms, framing ridership as a moral responsibility. Ultimately, MRT-3 ridership is sustained by functional resilience, advocating for policies that prioritize operational reliability to support commuter self-efficacy.

Keywords

MRT-3, Commuter Behavior, Theory of Planned Behavior (TPB), Usage Intention, Partial Least Squares Structural Equation Modelling (PLS-SEM)

1. Introduction

Epifanio de los Santos (EDSA) is the main 23.8-kilometer circumferential highway that passes through six cities in Metro Manila, serving as the city's primary link to the country's central business districts. However, the volume of daily traffic along EDSA has recently reached 470,000 vehicles, exceeding its maximum capacity of 300,000 (MMDA 2025). Filipinos have accepted these extreme traffic conditions, developing the cultural trait of *pagkamatiisin* (endurance), prioritizing necessity over preference. To reduce local traffic, the Metro Rail Transit Line 3 (MRT-3) was introduced as a high-capacity transit alternative, running parallel to EDSA (DOTR-MRT3 n.d.). Despite the availability of transport alternatives to ease EDSA's congestion, private vehicle ownership continues to grow, evidenced by the 16% rise in new private vehicles in NCR in 2022 (LTO 2023). 50% of the volume on EDSA is accounted for by these private vehicles, exacerbating air pollution and carbon footprint. Traffic in EDSA remains at a saturated "Level F" Level of Service (LoS) during peak hours. The mere availability of transit options has proven inadequate in shifting commuter behavior, necessitating an exploration into the drivers of usage intention.



Figure 1. MRT-3 Station Map

Understanding commuter behavior has been increasingly essential to satisfy transit demands by analyzing datasets with well-defined attributes to achieve rational outputs (Figure 1). While the Theory of Planned Behavior (TPB) is a widely recognized framework for analyzing human behavior (Ali et al. 2023), it does not fully account for structural, contextual, and environmental factors (Ng and Phung 2020) prevalent in Metro Manila. With an emphasis on urban transport contexts, the variables Perceived Service Quality (PSQ) Environmental Concerns (EC), First/Last Mile Connectivity (ILMC), Perceived Alternative (PA), and Past Behavior (PB), were selected as the extensions of the model. Alongside the application of TPB is the use of Partial Least Squares Structural Equation Modelling (PLS-SEM), which allows the simultaneous analysis of complex relationships between observed and latent variables, predicting target behaviors (Memon et al 2021) to reveal the properties of commuter decision-making.

The study has been conducted to address the behavioral and systematic factors affecting the usage intention of MRT-3. In this research, comprehensive recommendations to evaluate current influences and actions to be taken are given to enhance the appeal of using MRT-3. The results should bring analysts detailed information regarding the latent factors that foster pragmatic resilience among Filipinos, so that the commuting experience in MRT-3 can be handled with data-driven management.

1.1 Objectives

The study aims to develop a robust framework to evaluate the factors influencing the usage intention of Filipinos who commute along EDSA. This study intends expand the Theory of Planned Behavior (TPB) to relate the theory to commuting behaviors in the Metro Manila context, utilizing the Partial Least Squares-Structural Equation Modeling (PLS-SEM) to analyze the relationship between the latent variables and the intent of using MRT-3 as a public transportation in National Capital Region (NCR). The proposed model identifies critical factors influencing MRT-3 usage and provides a structured approach to understand the current behaviors of NCR commuters. The results offer detailed insights about the significance of each significant factor and relationship in the Filipino context, providing clear implications for policy and infrastructure improvements so that commuters can be managed with strategic precision.

2. Literature Review

Commuters in Metro Manila face a significant issue with traffic congestion, especially along EDSA. A 2019 study by the Asian Development Bank (ADB) identified Metro Manila as the most congested city among 278 cities in developing Asia, with a congestion index of 1.5. Despite efforts to improve public transport, many commuters prefer driving their own vehicles rather than taking the MRT-3, worsening traffic congestion.

Mayo and Taobada (2020) found that commuters in Metro Cebu prioritize safety, availability, cost, comfort, and environmental concerns when selecting public transport. Additionally, Rasca and Saeed (2022) identified age, vehicle ownership, trip distance, and parking availability as major predictors of transport choice. However, public transit adoption often lags globally due to concerns over service reliability, perceived convenience, and socio-cultural factors (Cervero and Guerra 2011). For instance, public transportation is frequently stigmatized as less prestigious than owning a private car (Shumilina and Antsiferova 2024). Discontent with transit quality, such as extended travel times and discomfort, further drives a preference for private vehicles (Ibad 2020), which ultimately increases traffic congestion, public health risks, and economic stagnation (Litman 2019).

Locally, the Philippine transportation sector accounted for 34.8% of total energy consumption in 2023 (Philippine Statistics Authority 2024). Road-based infrastructure development is frequently given priority under Philippine regulations, which unintentionally encourages reliance on cars rather than mass transit. Public transit mitigates these issues by easing congestion, improving traffic flow, and cutting carbon emissions (Militaru et al. 2022; Enviroliteracy Team 2024).

The TPB is a psychological framework that investigates a person's behavior associated with a particular scenario, which can be influenced by three primary factors: Attitude, Subjective Norms, and Perceived Behavioral Control. Using TPB, public transportation intentions and behaviors were predicted as intentions that capture an individual's motivational factors that affect their behavior, thereby assisting in the individual's decision-making process regarding transit usage (Ali et al. 2023). The complexity of transportation choices necessitates extensions for the traditional TPB model, especially in the Filipino context. In Figure 2, additional factors enhance the model's predictive power when applied to the intention to use the MRT-3 system in Metro Manila, Philippines.

- Environmental Concern (EC): The moral concerns of an individual regarding the effects of their decisions to the environment (Ali et al. 2023)
- First/Last Mile Connectivity (1LMC): Addresses the connectivity of transportation before and after commuting with the desired mode of travel in EDSA (Park et al. 2021)
- Perceived Alternatives (PA): Refers to the modes available within the road, acting as a “safety net” whenever the preferred mode of transportation is unavailable (H. Zhang et al. 2023)
- Past Behavior (PB): The actions of the individual in response to external or internal stimuli in the environment based on previous conduct (Liao et al. 2023)
- Perceived Service Quality (PSQ): The customer's assessment of the excellence, cleanliness, and safety of the service being availed (Abbasi et al. 2021)

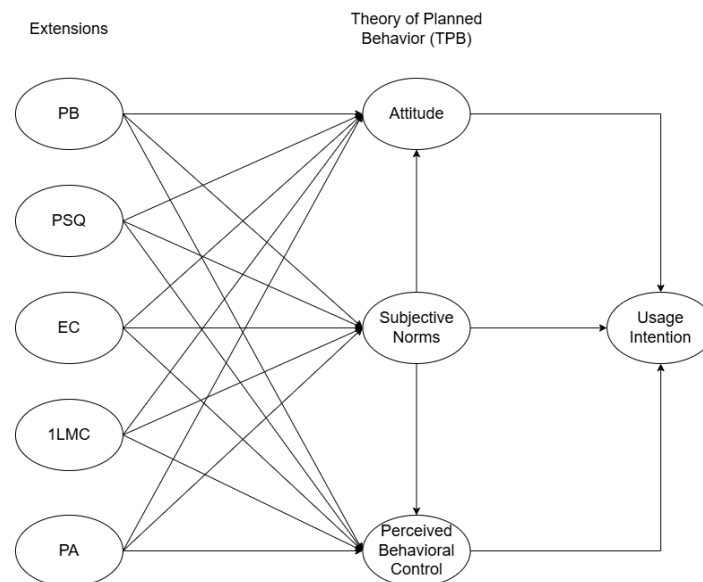


Figure 2. Conceptual Framework using the extension of the Theory of Planned Behavior on Usage Intentions of MRT-3

PLS-SEM is a widely used multivariate data analysis technique, allowing the simultaneous analysis of complex relationships between observed and latent variables (Memon et al 2021). It is commonly used in transportation research to test theories and hypotheses and has seen a significant increase in use since 2018, making it a reliable tool for exploring exploratory concepts and measurements (Diana 2021). The model can also examine concepts such as service quality, perception, satisfaction, loyalty, and behavioral intention, which should be examined separately for effective results. (Ismael and Duleba 2022)

In exploring the factors underlying the TPB and its extensions in the context of public transportation use, this literature review establishes a foundation for investigating the key variables that influence commuters' preferences and behavioral intentions to use the MRT-3 as a viable alternative to private transportation.

3. Methods

This study used a combination of qualitative and correlational designs to examine variables that may affect commuters' use of specific transportation modes along EDSA.

The study involved the use of the Theory of Planned Behavior to predict and explain human behavior, quantitatively analyzing it with Partial Least Squares-Structural Equation Modeling to test the relationships among variables. Determining the sample size required for the study, the researchers used Daniel Soper's A-priori Sample Size Calculator, a method validated by Memon et al. (2020), Changalima et al. (2023), and Tang et al. (2023). The required minimum sample size was determined to be 184 to detect an observable effect during analysis. The questionnaire was divided into two parts, with the first section collecting respondents' socio-demographic characteristics, such as age, gender, profession, and vehicle ownership. The second section contained questions that draw from previous studies from Tomás Vallejos et al. (2023), Liao et al. (2023), Ismael and Duleba (2021), Gelaidan et al. (2023), Ali et al. (2023), Zhang et al. (2019), Ng and Phung (2020), Park et al. (2021), H. Zhang et al. (2023), and Liao et al. (2023) which were modified to fit the Filipino context that utilized a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). This aided the study in assessing Past Behavior, Perceived Alternative Transportation, Environmental Concern, First/Last Mile Connectivity, Perceived Service Quality Attitude, Subjective Norms, and Perceived Behavioral Control for intentions to use MRT-3.

4. Data Collection

The study's sample was selected based on three primary criteria: participants must be (1) regular commuters who travel along EDSA at least three times per week, (2) users of any commute mode, and (3) aged 18 or older. Data collection took place from June to September 2025 via a structured Google Forms questionnaire, disseminated via social media and field distribution at MRT-3 stations along EDSA. While the study garnered 207 total responses, six were excluded for failing to meet the eligibility criteria. The final sample of 201 valid respondents exceeded the minimum 184 respondents required for a robust PLS-SEM analysis and ensured a representative sample of commuters who pass through EDSA.

5. Results and Discussion

5.1 Numerical Results

The study surveyed 201 respondents (51.2% male, 48.8% female). The majority were aged 18–27 (52.2%), with the remaining respondents aged 28–36 (32.8%), 47–54 (10.4%), 37–46 (3.5%), and above 54 (1%). Employment status primarily consisted of employed individuals (46.3%) and students (40.6%), alongside smaller groups of unemployed (9%) and retired (4%) participants.

Trains emerged as the primary transit mode (52.2%), followed by UV-Express (39.3%), private vehicles (35.8%), buses (32.3%), taxis and motorcycles (26.4% each), jeepneys (23.9%), e-jeeps (19.4%), and tricycles (5%). This strong preference for trains aligns with Mira (2025), who found that the MRT-3 and LRT-1 record the highest post-pandemic daily passenger counts. Despite this dominance, the data underscores that EDSA commuters continue to rely on a highly diverse mix of alternative transportation options.

Partial Least Squares Structural Equation Modelling (PLS-SEM) using SMART-PLS

To ensure a robust and statistically fit model, a two-stage refinement procedure was conducted using SMART-PLS. During the initial measurement model assessment, Perceived Service Quality (PSQ) and First/Last Mile Connectivity (1LMC) were excluded because their indicators failed to meet outer loading and internal consistency reliability thresholds. Next, bootstrapping analysis assessed structural path significance, leading to the removal of Attitude (ATD) due to a lack of statistical significance ($p > 0.05$) and adequate convergent validity. This sequential elimination ensured the final model relied solely on reliable, highly predictive constructs, minimizing measurement error and maximizing overall fit.

Discriminant Validity

In Table 1, all HTMT values ranged from 0.148 to 0.434, which are well below the conservative threshold of 0.85, indicating that each construct is empirically distinct from the others (Henseler et al. 2015). This demonstrates that discriminant validity has been fully established in the final measurement model.

Table 1. Heterotrait-Monotrait Ratio

	EC	PA	PB	PBC	SN	UI
EC						
PA	0.239					
PB	0.158	0.264				
PBC	0.268	0.427	0.262			
SN	0.255	0.175	0.186	0.222		
UI	0.148	0.204	0.348	0.434	0.325	

In Table 2, the Fornell–Larcker Criterion was used to further assess discriminant validity by comparing the square root of each construct’s AVE with its correlations with other constructs. As shown in Table 4, the diagonal values (representing the square roots of AVE) for all constructs (EC = 0.861, PA = 0.826, PB = 0.804, PBC = 0.800, SN = 0.782, and UI = 0.750) are greater than their corresponding inter-construct correlations, indicating that each construct shares more variance with its own indicators than with other latent variables in the model. This confirms that the constructs are empirically distinct, thereby establishing discriminant validity in accordance with the Fornell–Larcker criterion (Fornell and Larcker 1981).

Table 2. Fornell-Lacker Criterion

	EC	PA	PB	PBC	SN	UI
EC	0.861					
PA	-0.14	0.826				
PB	-0.035	0.159	0.804			
PBC	-0.186	0.318	0.199	0.8		
SN	0.192	0.082	0.033	0.045	0.782	
UI	-0.02	0.134	0.145	0.293	0.207	0.75

Based on Table 3, the structural path significance analysis of the final PLS-SEM model, all retained hypothesized paths demonstrated statistically significant relationships. Environmental Concern (EC) showed a highly significant positive influence on Subjective Norms (SN) ($p = 0.004$), indicating that eco-conscious commuters perceive stronger social encouragement to adopt sustainable transport like the MRT-3. Perceived Alternatives (PA) emerged as the most statistically significant predictor of Perceived Behavioral Control (PBC) ($p = 0.0000013$), as awareness of viable backups acts as a psychological safety net that reinforces commuter autonomy and control. Similarly, Past Behavior (PB) significantly enhanced PBC ($p = 0.021$), since prior MRT-3 experience builds familiarity and navigational confidence. These interconnected factors ultimately drive Usage Intention (UI). PBC was the strongest predictor of UI ($p = 0.00009$), revealing that a commuter's self-efficacy in navigating system constraints is the critical determinant for riding the MRT-3. Finally, SN also significantly affected UI ($p = 0.011$), confirming that social influence and validation continue to reliably shape the decisions of Filipino commuters.

Table 3. Structural Path Significance (p-value)

Structural Path	P values
EC → SN	0.004
PA → PBC	0.0000013
PB → PBC	0.021
PBC → UI	0.00009
SN → UI	0.011

5.2 Graphical Results

In Figure 3, the refined Structural Equation Model presents a robust configuration of the extended TPB framework for MRT-3 commuters. Notably, the 'Attitude' construct was removed due to weak validity. This aligns with recent studies indicating that in systems with unstable reliability, commuter attitudes are often overshadowed by practical constraints (Liu et al. 2020; Nguyen-Phuoc et al. 2021; Zhu et al. 2022). While standard behavioral theories require a positive service evaluation for action, excluding Attitude highlights the Filipino cultural trait of *pagkamatiisin* (endurance). For these commuters, extreme traffic and discomfort is the norm, suppressing emotional responses to poor service in favor of functional mobility of riding MRT-3 (Fallaria et al. 2019).

Environmental Concern (EC) significantly influenced Subjective Norms (SN) ($p = 0.004$), confirming that eco-conscious commuters, predominantly Gen Z and Millennials (85% of the sample), perceive strong societal expectations for sustainable transport (Shahsavari and Amini 2022; Song et al. 2020; Business World 2024; Deloitte 2024). This mirrors the national shift toward green mobility (Manila Standard, 2025). Consequently, SN significantly affected Usage Intention ($p = 0.011$) (Nguyen-Phuoc et al. 2021; Zhu et al. 2022). Unlike individualistic cultures, Filipino commuters operate collectively. The MRT-3 serves as a shared reality where peer-validated "responsible mobility" leverages *pakikisama* (social conformity), lowering psychological barriers to enduring the commute (Riber et al. 2025).

Perceived Alternatives (PA) emerged as the strongest predictor of Perceived Behavioral Control (PBC) ($p < 0.001$) (Zheng and Wang 2020; Silva et al. 2021). Rather than competing with the MRT-3, parallel options like the EDSA Busway act as psychological safety nets. This reflects *diskarte* (strategic coping): knowing backups exist eases anxiety over service disruptions, paradoxically boosting confidence to use the train. Additionally, Past Behavior (PB) significantly enhanced PBC ($p = 0.021$). Repeated use equips commuters with navigational "street smarts," such as anticipating crowd surges. This experiential learning fosters confidence, enabling highly stressed demographics like students to maintain routines amidst chaotic transit environments (Roitmann and Walker 2022; Choocharukul and Sriroongvikrai 2020; Sumicad et al. 2024; The Morning Rush Study 2025).

Ultimately, PBC was the strongest predictor of Usage Intention ($p < 0.001$), making self-efficacy the critical determinant of future use (Hoang-Tien et al. 2021). This reframes the EDSA commuter narrative from preference to functional capability. Riding the MRT-3 is a calculated measure of survival and adaptation to system constraints, demonstrating that in resource-constrained environments, pragmatic resilience supersedes the desire for comfort.

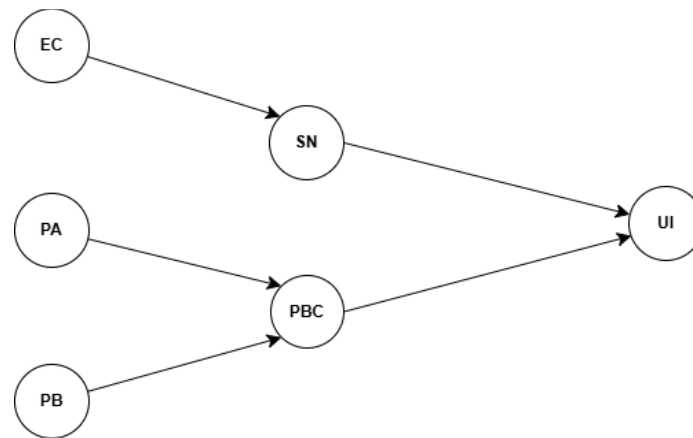


Figure 3. Final SEM with Indicators for Factors of the extension of the Theory of Planned Behavior on Usage Intentions of MRT-3

5.3 Proposed Improvements

Based on this study's empirical findings, future strategic initiatives must address the physical, psychological, and social dimensions of the metropolitan transit experience. In urban planning and logistics, authorities can leverage these insights to understand and dismantle the socio-psychological barriers that prevent car owners from shifting to mass transit. Furthermore, in the realm of public policy, this framework provides a vital reference for agencies like the DOTr and MMDA when designing integrated transport systems, ultimately emphasizing that fostering a commuter's sense of "control" is just as critical as expanding system "capacity."

Limitations and Suggestions. This study's primary limitation is its reliance on indirect metrics for Subjective Norms (SN) and Perceived Behavioral Control (PBC). Future research should adopt a dual-measurement approach (combining direct and indirect variables) to better capture how social pressure and self-efficacy drive behavioral intent. Additionally, moving beyond a general commuter profile to analyze specific segments, like car-dependent professionals versus captive transit users, will help pinpoint the exact threshold for modal shift.

Relative Attractiveness and Control (PA → PBC). In order to encourage greater use of public transport, authorities must focus on creating a physical and visually integrated transport system, with protected walkways from surrounding areas to the "EDSA Carousel" and developing mobility hubs for use with ride-hailing services, providing commuters with a real sense of psychological reassurance and control. As a result of these improvements, the MRT-3 will be seen as a more accessible option than private transport, and thus will increase ridership.

Environmental Benefits and the Role of Social Norms (EC → SN). Public awareness campaigns could use digital green impact dashboards and gamification loyalty programs to illustrate the ecological benefits of travelling by train. This will help to present the MRT-3 as a socially acceptable and morally acceptable option for contributing to the sustainability of urban centres.

Positive Travel Experience (PB → PBC). The most important thing to create a long-lasting trust relationship with commuters based on their previous experience is to offer reliable transport through real-time tracking of bus arrival times and daily audits to ensure that all services are running as scheduled; and then create localized systems for collecting inclusive feedback regarding operating procedures, thus managing operational deficiencies and maintaining a high standard of service.

Social Influence (SN → UI). In order to bring about normalisation of train use, the influence of social authorities like employers should be used via corporate 'Transit Allowance' to replace parking incentives. By changing the subjective norm in work environments, it is possible to promote the MRT-3 as the logical 'smart' and 'standard' choice for the working population.

Ease of Access/Information Systems (PBC → UI). To reduce commuter anxiety, operations should provide access to real-time train density and arrival time through open data that will have a direct effect on the commuter's sense of control over the travel process by allowing them to track trains via real-time mobile applications. Continuing to push to adopt unified, contactless payment methods will provide an even greater reduction in physical friction, increasing overall system efficiency and accessibility.

Research Design and Instrumentation. Future models must be refined through the use of fewer replicative indicators, found in Service Quality and Past Behavior, and the inclusion of moderating factors (e.g., Vehicle Ownership or Income Category), allowing a more precise understanding of how socio-economic factors influence social pressure and travel intent.

Sampling and Respondents. A recommended practice would be to utilize a stratified random sample which will include a bigger sample of MRT-3 riders (300-400). This will provide a larger sample size and therefore greater statistical power to generalise about MRT-3 across the entire rider population.

Data Analysis and Data Collection. The integrity of future research will benefit from the use of longitudinal tracking and diagnostics as a means to control for bias in future data collection. Combining surveys with direct station observations will help verify if reported perceptions align with the actual physical constraints commuters face on the ground.

Comparison Analysis. Future expansion may include other rail lines (e.g., LRT-1, LRT-2 and MRT-7) would facilitate a comparative study between each rail system. This would allow for the identification of which operationally related factors drive long-term user loyalty across the highly competitive manila transit market.

5.4 Validation

Construct Reliability and Validity and Collinearity Statistics

The reliability and validity of the measurement model were assessed using Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) in SMART-PLS. As shown in Table 4, all constructs achieved CR values between 0.776 and 0.851, exceeding the recommended threshold of 0.70. Convergent validity was assessed using the Average Variance Extracted (AVE). According to Fornell and Larcker (1981), an AVE value of 0.50 or higher indicates that the construct explains more than half of the variance of its indicators, implying that the variance captured by the construct exceeds the variance due to measurement error.

Cronbach's Alpha values ranged from 0.540 to 0.720. Although some values were slightly lower than the traditional threshold, PLS-SEM prioritizes Composite Reliability, which was acceptable for all constructs. Therefore, internal consistency reliability was established for all retained constructs. Items that failed to meet the specified criteria in the initial model (e.g., PSQ indicators, PB2, PB3, SN2, and ILMC5) were removed to improve model fit. Following this reduction, the final measurement model demonstrated strong reliability and convergent validity.

Table 4. Construct Reliability and Validity

Construct	Item	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
EC	EC2	0.669	0.851	0.742
	EC5			
PA	PA2	0.587	0.807	0.682
	PA5			
PB	PB1	0.54	0.776	0.646
	PB4			
PBC	PBC1	0.72	0.842	0.639
	PBC2			
	PBC3			
SN	SN3	0.687	0.825	0.612
	SN4			
	SN5			
UI	UI1	0.611	0.793	0.562
	UI2			
	UI3			

In Table 5, all retained indicators demonstrated acceptable collinearity levels, with VIF values ranging from 1.159 to 1.536, far below the recommended threshold of 3.3 for PLS-SEM. This indicated that multicollinearity was not a concern and that each indicator contributed unique explanatory variance to its construct. These results satisfy the collinearity requirements for reflective measurement models. (Hair et al. 2021)

Table 5. Collinearity Statistics

Construct	VIF	Construct	VIF
EC2	1.338	PBC3	1.415
EC5	1.338	SN3	1.336
PA2	1.209	SN4	1.29
PA5	1.209	SN5	1.41
PB1	1.159	UI1	1.192
PB4	1.159	UI2	1.267
PBC1	1.348	UI5	1.203
PBC2	1.536		

6. Conclusion

This study investigated the behavioral determinants shaping commuters' intention to use the MRT-3 using an extended version of the Theory of Planned Behavior (TPB). Successive refinements of the measurement and structural models validated a framework reflecting the realities of commuting in a high-density, resource-constrained environment. Ultimately, the best model revealed that MRT-3 ridership is driven not by passenger satisfaction or preference, but by a specific psychology of pragmatic resilience.

A critical finding was that Attitude did not make it to the final model, failing to meet reliability and validity criteria. This contradicts the classical TPB, which posits that positive evaluation precedes action. Instead, Filipino commuter attitudes are inconsistent, unformed, or overshadowed by practical constraints, offering quantitative proof of the Filipino cultural trait of *pagkamatiisin* (endurance).

Perceived Behavioral Control (PBC) emerged as the strongest predictor of Usage Intention, reframing the EDSA commuter's narrative from preference to functional capability. The decision to use the MRT-3 is defined by self-efficacy, which is the belief that commuters possess the resources, knowledge, and stamina to navigate system constraints. This sense of control is reinforced by Perceived Alternatives and Past Behavior. The presence of other options, like the EDSA Carousell, acts as a psychological "safety net" that reduces the anxiety of feeling trapped. Similarly, repeated exposure serves as training, allowing commuters to acquire the *diskarte* (street smarts) necessary to predict crowd surges and time journeys effectively.

While functional capability is the main driver, the study confirms that Filipino commuting behavior remains socially embedded. Subjective norms exerted a significant positive influence on intention, reflecting a collectivist framework where commuters are swayed by peer and family validation. Environmental Concern emerged as a strong predictor of these norms, particularly for Gen Z and Millennials dealing with climate anxiety and social pressure, framing mass transit use as a moral and ecological responsibility rather than pure convenience.

This study successfully identified the significant psychological determinants of MRT-3 usage across Metro Manila's multimodal EDSA corridor using an extended TPB framework and PLS-SEM. By demonstrating the dominance of Perceived Behavioral Control (PBC) and challenging the universality of 'Attitude' in global transport literature, the findings caution that in resource-constrained environments, capability-based factors far outweigh affective evaluations. These insights offer actionable recommendations for stakeholders: agencies like the DOTr and LTFRB must prioritize operational predictability over cosmetic upgrades to enhance commuters' sense of journey management. Furthermore, because Perceived Alternatives paradoxically strengthen rail usage by acting as a psychological safety net, urban planners should aggressively develop integrated transport hubs that ensure seamless connectivity with backup modes like buses and UV Express. Finally, because Environmental Concern heavily drives social norms, targeted marketing campaigns can effectively promote MRT-3 ridership as a collective climate action.

Ultimately, the refined SEM model demonstrates that MRT-3 ridership is sustained not by ride quality, but by the commuter's belief in their own agency. The absence of Attitude serves as proof of a resilient Filipino commuting culture where surviving the commute surpasses the desire for a comfortable experience. As Metro Manila grapples with ongoing transport challenges, understanding this psychology of pragmatic resilience is essential for culturally sensitive and potent policymaking.

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