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Understanding Public Transport Avoidance in Indonesia: A Narrative Review of Psychological Safety Deficit and Trust Asymmetry as Core Barriers to Adoption

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***Abstract*—Public transport adoption in Indonesia remains limited despite substantial infrastructure development and ongoing improvements in operational performance. This narrative literature review synthesizes multidisciplinary findings to explain why Indonesians continue to prefer private and platform-based mobility options. The analysis centres on two underexamined yet critical mechanisms: Psychological Safety Deficit (PSD) and Trust Asymmetry (TA). PSD refers to users' perceived lack of emotional security, agency, and predictability when navigating shared mobility environments, shaped by concerns regarding harassment, crowding, poor visibility, and inconsistent real-time information. TA captures the persistent imbalance between trust in public transport institutions and the higher trust placed in private mobility platforms, often reinforced by fragmented governance, opaque incident handling, and limited responsiveness.**

Drawing on literature from 2015 to 2025, complemented by foundational theories of service quality, perceived risk, servicescapes, and institutional trust, this review demonstrates that functional attributes alone—such as reliability, cleanliness, affordability, or first/last-mile access—cannot sufficiently address deep-rooted psychological and institutional barriers. Case illustrations from Jakarta and other Indonesian cities show that credence-oriented interventions, including transparency-by-design mechanisms, platform-style communication cues, survivor-centric reporting systems, enhanced staff visibility, and predictive passenger information, can more effectively alleviate PSD and reduce TA.

This review contributes theoretically by reframing public transport avoidance in Indonesia as a credence-driven service adoption challenge, shaped by affective perceptions and trust judgments rather than operational performance alone. Practically, it introduces the Trust-and-Safety Signalling Mix, a framework that integrates psychological safety, institutional transparency, and user-centred design to support Indonesia's transition toward a safer, more reliable, and more trustworthy public transport ecosystem.

Keywords— ***Psychological Safety Deficit; Trust Asymmetry; public transport avoidance; Indonesia; credence services; service quality perception; institutional trust; user safety; mobility behaviour; urban transportation.***

I. INTRODUCTION

In Indonesia's largest urban canters, substantial public investments in mass transit—spanning heavy rail, BRT, and new urban rail—have not translated into commensurate modal shifts, as private mobility (motorcycles, cars, and app-based ride-hailing) continues to dominate daily trips, with attendant congestion, emissions, and inequities in access [1], [2]. Understanding the behavioural foundations of persistent public transport avoidance is therefore a strategic imperative for policymakers and operators, and a fertile domain for marketing scholarship on high-credence services, perceived risk, and trust. We ask: How can a marketing and consumer-psychology lens explain Indonesians' reluctance to use public transport, and what actionable levers emerge for shifting demand sustainably?

We address this question through a traditional/narrative literature review, synthesizing multidisciplinary evidence (marketing, consumer psychology, service quality, mobility behaviour, and urban governance) from 2015–2025 following established guidance on narrative/systematic reviews [5], [6]. Building on canonical determinants—reliability, cleanliness, travel time, price, accessibility, and first/last-mile connectivity [1], [2], [4], [8]—we foreground two underexplored but pivotal constructs that help resolve Indonesia's "infrastructure–ridership paradox":

1. Psychological Safety Deficit (PSD)—the perceived loss of agency, predictability, dignity, and emotional security in shared mobility contexts. PSD extends beyond physical safety to include anticipatory anxiety about crowding, harassment, uncertain enforcement, and low incident transparency; it captures a consumer's felt (in)control during the service encounter [9], [12]. In credence-heavy services—where consumers cannot fully assess quality before or even after use—perceived psychological safety becomes a core value proposition shaping adoption [3], [4].

2. Trust Asymmetry (TA)—the imbalance between trust in self-managed mobility (private vehicles and platform-mediated ride-hailing) and trust in public institutions and operators that plan, operate, and police transit. TA is reinforced by inconsistent service histories, fragmented accountability, opaque redress mechanisms, and perceived misalignments between citizen needs and institutional responsiveness [13], [15]. In markets where institutional trust is uneven and performance information is noisy, consumers overweight idiosyncratic control (e.g., choosing driver,

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route, departure time) relative to collective provision—an effect amplified by digital platforms' reputation and accountability artifacts [16], [18].

While PSD and TA have often been folded into broad "safety" or "provider trust" measures, they are conceptually distinct and mutually reinforcing PSD captures the micro-phenomenology of the trip (how a rider feels minute-to-minute), whereas TA captures macro-beliefs about institutional credibility. We argue that functional upgrades alone (e.g., shorter headways, cleaner vehicles) may not meaningfully increase ridership unless coupled with credence-based signals—transparency, verifiability, and redressability—that restore psychological safety and correct institutional trust asymmetries [19], [21], [22].

Indonesia is a salient context for theorizing PSD and TA. First, megacity travel is marked by high density and variability (weather, demand spikes, disruptions), amplifying unpredictability salience [1], [23]. Second, gendered safety concerns and family travel norms (escorting children/elders, carrying goods) heighten perceived vulnerability during crowded, multimodal transfers [11], [12], [24]. Third, the mobility ecosystem blends legacy public assets with hyper-visible private platforms whose interfaces emphasize personalization, choice, and accountability (ratings, real-time tracking, in-app support)—features that naturally attenuate PSD and narrow perceived risk compared to public options [17], [18]. These structural and cultural features make Indonesia an ideal setting to reframe modal choice as a credence-service adoption problem governed by psychological and institutional factors, not merely by travel time and price.

This review contributes in three ways. First, it clarifies PSD and TA conceptually and situates them within the marketing canon on credence services, perceived risk, and service experience design [3], [4], [9], [10]. Second, it synthesizes evidence that PSD and TA interact with (rather than replace) canonical determinants, creating threshold effects where functional improvements yield diminishing returns absent trust-and-safety signalling [1], [2], [19], [22]. Third, it develops a practice-oriented framework—a Trust-and-Safety Signalling Mix—specifying low-cost, high-credence interventions (public, timestamped incident dashboards; visible, real-time security presence; verifiable staff identity; grievance SLAs; culturally sensitive anti-harassment protocols; predictability nudges such as crowding and headway forecasts) designed to reduce PSD, rebalance TA, and amplify the impact of functional upgrades [19], [20], [21], [22].

II. METHODOLOGY

This study adopts a traditional/narrative literature review methodology, following the same structure and logic used in the reference article. This method is suitable for synthesizing conceptual relationships between Psychological Safety Deficit (PSD), Trust Asymmetry (TA), and public transport avoidance in Indonesia. Narrative reviews allow researchers to integrate insights from multiple disciplines without the constraints of a systematic or meta-analytic approach [5], [26].

A. Search Strategy

The literature search focused on publications from 2015–2025, with selected foundational works included to support key theoretical concepts (e.g., perceived risk, trust, and service quality). Searches were conducted in major academic databases including:

- Scopus
- ScienceDirect
- Web of Science
- IEEE Xplore
- ACM Digital Library
- Taylor & Francis / SAGE Journals
- Google Scholar

Search terms combined keywords relating to public transport, Indonesia, safety concerns, trust, and service adoption, such as:

- *"Public transport adoption Indonesia"*
- *"Psychological safety transport"*
- *"Gender safety transit Indonesia"*
- *"Institutional trust public services"*
- *"Credence services and perceived risk"*

This replicates the structured approach described in earlier literature review guidelines [5], [26].

B. Inclusion Criteria

Sources were included if they met the following criteria:

1. Addressed public transport quality, user perceptions, safety, or trust.
2. Discussed consumer behaviour, credence services, or service experience design.
3. Focused on Indonesia/ASEAN or offered generalizable conceptual frameworks.
4. Provided conceptual clarity or empirical relevance to PSD, TA, or service adoption.

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C. Exclusion Criteria

Sources were excluded if they:

1. Focused solely on engineering or technical operations without behavioural implications.
2. Contained insufficient methodological transparency.
3. Were purely opinion-based or lacked analytical structure.
4. Examined freight, rural mobility, or unrelated transport systems.

D. Screening Process (Simplified)

To ensure clarity, the screening process followed three straightforward steps, consistent with approaches recommended in review methodology literature [5], [25]:

1. Title and abstract screening
   - Removed items clearly unrelated to public transport behaviour, safety, trust, or Indonesia/ASEAN mobility.
2. Full-text assessment
   - Evaluated construct clarity (e.g., definitions of safety, trust, risk).
   - Checked relevance to PSD, TA, or established determinants such as reliability and accessibility.
3. Snowballing
   - Reviewed references in key articles to identify additional relevant works, particularly from Southeast Asian contexts.

This process resulted in a curated body of literature that aligns with the narrative review tradition.

E. Synthesis Approach

All selected articles were examined to extract key themes. The synthesis process followed three steps:

1. Grouping studies by topic (e.g., safety perception, gendered mobility concerns, institutional trust).
2. Identifying recurring mechanisms related to PSD and TA.
3. Integrating insights to map how PSD and TA interact with traditional determinants of public transport use.

This thematic integration parallels the synthesis structure used in the guiding article.

F. Limitations

As a narrative review, this methodology does not claim exhaustive coverage of all global studies. Instead, it aims to provide conceptual depth, highlight emergent mechanisms, and propose interpretive models relevant to Indonesia. This aligns with the intended purpose of narrative reviews in management and social science research [26].

III. Exploring the Indonesian Public Transport Context

Indonesia's urban mobility landscape offers a unique context for examining public transport avoidance, as it combines rapid infrastructure expansion, high private-vehicle dependence, safety and security concerns, and institutional trust challenges. These conditions make the country an ideal setting for analysing how Psychological Safety Deficit (PSD) and Trust Asymmetry (TA) influence behavioural decisions, complementing conventional determinants such as reliability, cleanliness, price, and accessibility.

A. Urban Mobility Characteristics in Indonesia

Major Indonesian cities—Jakarta, Surabaya, Bandung, Medan—exhibit high travel demand, dense urban cores, and fragmented land-use patterns, resulting in chronic congestion. Jakarta consistently ranks among the world's most congested cities, with motorcycles functioning as both a necessity and a cultural norm. Traditional studies indicate that Indonesians perceive private vehicles as delivering superior control, flexibility, and personal safety, driving persistent reliance on motorcycles and cars [1], [2].

Although large-scale public transport systems have expanded—Jakarta's MRT (2019), LRT Jabodebek (2023), the TransJakarta BRT, and ongoing commuter-rail upgrades—the transition to mass transit remains gradual. Research shows that improvements in speed, reliability, and physical comfort alone are insufficient to shift consumers from private modes when deeper psychological and institutional factors remain unresolved [2], [7].

B. Traditional Determinants of Public Transport Use

International and Indonesian studies consistently identify several determinants influencing transport mode choice:

1. Service reliability and travel time
   Reliability is central to user satisfaction and modal shift [2], [7]. Inconsistent headways, unpredictable delays, and breakdowns—still common in parts of Indonesia's system—diminish perceived value.
2. Comfort and cleanliness
   Perceptions of overcrowding, inadequate ventilation, and hygiene strongly affect willingness to use public transport, especially among female commuters and families [11], [12].

3. Affordability and price trade-offs
   While public transport is generally cheaper, many Indonesians still opt for ride-hailing motorcycles (ojek online) due to time savings, direct routes, and door-to-door convenience, illustrating that price alone is not a decisive factor [8].
4. Accessibility and first/last-mile connections
   Distance to stations, poor pedestrian infrastructure, and unsafe walking environments have long been major barriers to ridership [1], [24]. First/last-mile gaps amplify PSD by increasing exposure to harassment risk, unpredictable street conditions, and uncontrolled interactions.

These determinants align with global findings [1], [2] but require reinterpretation in Indonesia's social and cultural context.

C. Socio-Cultural and Gendered Mobility Factors

Indonesian mobility behaviour is shaped by collectivist family norms, gender roles, and safety considerations. Studies indicate that women experience higher levels of fear, harassment risk, and avoidance in transit environments [11], [12]. These experiences contribute directly to PSD, particularly in crowded stations, dark walkways, and multimodal transfers.
Family mobility needs (travelling with children, groceries, elders) also strengthen preferences for motorcycles and cars, which offer privacy, convenience, and perceived safety unmatched by public transport options [24].

D. The Institutional Dimension of Indonesian Transit

Public trust toward transport operators and government agencies remains uneven due to perceived inconsistencies in:

- incident reporting transparency,
- service reliability,
- enforcement of safety and anti-harassment regulations, and
- accountability mechanisms.

Institutional trust research indicates that perceived misalignment between public agencies and citizen needs lowers willingness to engage with public services [13], [14], [26]. In mobility systems, this manifests as Trust Asymmetry (TA): Indonesians frequently trust ride-hailing platforms—known for clear tracking features, ratings, and transparent support—more than traditional public operators [16], [18].

This asymmetry persists even when functional quality improves, showing that institutional credibility is as crucial as operational performance.

E. Summary of Contextual Implications

Indonesia's mobility landscape reveals that:

- Traditional determinants alone cannot explain persistent public transport avoidance.
- Psychological experiences—fear, anxiety, lack of control—shape daily travel choices.
- Trust asymmetry between private and public mobility systems significantly affects adoption.
- These forces interact with reliability, accessibility, and comfort, reinforcing avoidance behaviour even as infrastructure improves.

Together, these contextual insights underscore why PSD and TA offer high-value explanatory power for Indonesia's public transport challenge and justify further exploration in subsequent sections.

IV. Understanding Psychological Safety Deficit (PSD) in Indonesia Public Transport

Psychological Safety Deficit (PSD) represents one of the most influential yet underexamined mechanisms shaping public transport avoidance in Indonesia. PSD captures the emotional, cognitive, and anticipatory discomfort experienced by potential users when they perceive that public transport environments limit their sense of agency, predictability, control, dignity, and personal security. This interpretation extends safety beyond physical harm to encompass the psychological experience embedded in using shared, high-density mobility systems [11], [12].

In Indonesia, PSD manifests strongly due to the interaction of crowding, harassment risk, environmental unpredictability, weak deterrence cues, and limited transparency during disruptions. These factors disproportionately affect women, students, and commuters traveling during off-peak hours—groups that studies consistently identify as more sensitive to safety and fear dynamics in transit environments [11], [24].

A. Defining Psychological Safety Deficit in Transit Contexts

PSD reflects the gap between the level of psychological comfort a user expects and the perceived safety cues available within the transit environment. Urban studies show that transit fear is shaped not only by real incidents but also by *ambient conditions*, such as:

- presence of strangers with unclear intentions,

- poor lighting and visibility,
- crowded spaces with limited exit routes,
- inconsistent enforcement or staff presence, and
- absence of clear information when disruptions occur.

These elements create what researchers describe as situational vulnerability, where individuals feel exposed to potential harm or discomfort even if no actual threat exists [11], [12].

For Indonesian commuters, PSD is intensified by the everyday realities of navigating dense stations, platform bottlenecks, and crowded feeder buses, especially during peak hours.

B. Drivers of Psychological Safety Deficit in Indonesia

1. Fear of Harassment and Inappropriate Behaviour
   Harassment—verbal, physical, and non-verbal—remains a critical barrier for women in public transport. International and Asian studies show that harassment prevalence significantly reduces women's willingness to use mass transit systems [11], [12]. In Indonesia, media reports and qualitative studies highlight recurring concerns about body proximity, inappropriate touching in crowded vehicles, and insufficient enforcement, contributing directly to PSD.

2. Crowding and Limited Control Over Space
   Crowded conditions diminish perceived agency, increase stress, and heighten feelings of vulnerability. Users have limited control over who they stand next to, where they can move, or how quickly they can exit—conditions that amplify PSD and reduce the perceived emotional safety of the trip [11].

3. Uncertainty and Lack of Predictability
   Unpredictable headways, unclear delay announcements, and inconsistent real-time updates weaken users' sense of control. In high-uncertainty contexts, consumers gravitate toward options that provide better predictability—even if they cost more or are less efficient [1], [2].

4. Inadequate Safety Signalling and Low Visibility of Authority
   Research in transit safety emphasizes the importance of visible guardianship—security personnel, CCTV signage, and staff presence—because these environmental cues directly reduce fear and anticipatory anxiety [11], [12]. In many Indonesian transit facilities, staff visibility and monitoring infrastructure remain uneven.

C. PSD as a High-Credence Service Challenge

Public transport is a high-credence service: users cannot fully evaluate safety or service quality before or even during use. Because PSD involves internal psychological states, riders rely heavily on *cues*—lighting, signage, staff, cleanliness, and crowd density—to infer safety levels. Research in credence services shows that when intangible risks dominate, consumers substitute rational evaluation with emotional heuristics, choosing services that "feel safer," even if objectively less efficient [3], [10], [1].

This helps explain why Indonesian commuters frequently choose ride-hailing motorcycles, despite higher costs and exposure to road risk: these options provide greater perceived control, reducing PSD more effectively than public options.

D. Interaction Between PSD and Traditional Determinants

PSD does not replace traditional determinants; it amplifies their effects:

- Reliability problems increase PSD by adding uncertainty.
- Poor cleanliness and maintenance reduce perceived emotional safety.
- Long or unsafe first/last-mile walks heighten situational vulnerability.
- Crowding intensifies harassment risk perception.

Thus, service improvements that target only functional attributes may fail to increase ridership unless they simultaneously reduce PSD.

E. Implications of PSD for Indonesian Smart Mobility Development

PSD poses a significant challenge for Indonesia's transition toward sustainable, inclusive mobility. Without addressing emotional and psychological barriers, even modern infrastructures such as MRT, LRT, and BRT may experience limited modal shift. Reducing PSD requires:

- improving visibility of security and staff,
- designing stations to reduce blind spots and bottlenecks,
- ensuring transparent, real-time communication during disruptions, and
- implementing gender-sensitive design and anti-harassment protocols.

These measures will be integrated further in the Trust-and-Safety Signalling Mix proposed in later sections.

V. TRUST ASYMETRY (TA) IN INDONESIA PUBLIC TRAMSPORT

Trust Asymmetry (TA) refers to the imbalance between trust in self-managed mobility (e.g., private cars, motorcycles, ride-hailing platforms) and trust in public institutions and operators that plan, run, and police transit systems. In Indonesia, this asymmetry persists even as infrastructure improves, suggesting that institutional credibility and accountability signals are at least as important as functional performance in shaping adoption decisions [13], [14], [18].

TA is structural (rooted in long-run beliefs about public agencies) and experiential (reinforced by day-to-day encounters with service variability, opaque incident handling, or weak redress). Digital platforms often narrow TA by providing granular visibility, personalization, and recourse artifacts (e.g., driver ratings, GPS traces, in-app support), whereas public options can lag in transparency, verifiability, and complaint resolution—features that consumers use as proxies for trustworthiness in credence-heavy services [16], [18], [19], [20].

A. Defining Trust Asymmetry in Credence-Service Mobility

In credence contexts—where users cannot fully evaluate quality ex-ante or ex-post—trust serves as a primary decision heuristic [3]. TA emerges when confidence in one provider archetype (private/platform) reliably exceeds confidence in another (public/institutional), independent of objective performance. Classic trust theory emphasizes ability, benevolence, and integrity as antecedents of trust; institutional settings add procedural justice and transparency as critical dimensions [14], [41]. When riders perceive public providers as able (technical capacity) but not consistently responsive or transparent, TA persists.

In Indonesia's mixed ecosystem, platform governance artifacts—ratings, ETA accuracy, driver identity verification—materialize trust antecedents in ways that are instantly legible to users, whereas public operators' assurances can be diffuse or delayed, weakening perceived integrity and benevolence [16], [18], [30].

B. Institutional Antecedents of TA in Indonesia

1. Historical Variability and Policy Discontinuity
   Changes in routes, headways, or enforcement without clear communication erode predictability, a core foundation of institutional trust [13], [29].
2. Opaque Incident Handling and Limited Redress
   When disruptions, safety incidents, or harassment claims lack publicly verifiable resolution (timestamps, outcomes), users infer low accountability—amplifying TA [19], [20].
3. Fragmented Accountability Across Agencies
   Multi-operator, multi-agency governance can make "who is responsible" unclear during failures. Research shows that clarity of responsibility and redress strongly shapes perceived institutional integrity [13], [29], [31].
4. Communication Gaps in Real Time
   Infrequent or non-specific announcements reduce perceived process transparency. Conversely, accurate real-time updates foster competence and honesty signals [1], [2], [32].

C. Platform-Era Asymmetries: Why Private/Platform Options Feel More Trustworthy

Platform design externalizes trust cues into the user interface: real-time location, fare estimates, identity verification, two-way ratings, and structured complaint channels. These artifacts operationalize ability (accurate ETAs), integrity (traceable transactions), and benevolence (responsive support)—directly addressing trust antecedents [16], [18]. In high-uncertainty Indonesian trips (weather, congestion), the perceived control of choosing driver, departure time, and route lowers psychological safety deficits while narrowing TA.

Public transit can replicate many of these cues—incident dashboards, verified staff identity, service guarantees—but gaps in implementation consistency and auditability often sustain TA despite physical upgrades [22], [32], [33].

D. TA–PSD Interactions: A Reinforcing Loop

TA and PSD form a feedback system:

- High TA (low trust in institutions) increases anticipatory anxiety about fairness of treatment and efficacy of redress if something goes wrong, thereby raising PSD.
- Elevated PSD (feeling unsafe, out of control) pushes riders toward options perceived as more controllable, which reinforces TA as users accrue positive experiences with platforms and remain distant from public options [11], [30], [27], [28].

This loop explains why functional improvements alone (cleanliness, headway) may produce sub-linear ridership gains if TA and PSD remain unaddressed [1], [2].

E. Reducing TA: Principles from Service, Governance, and Ethics

Evidence across service recovery, public governance, and ethical technology suggests five actionable principles for rebalancing TA:

1. Radical Transparency by Default
   Public, timestamped incident resolution dashboards (type, response time, outcome) convert invisible processes into verifiable integrity signals [21], [22], [32].
2. Clear Lines of Accountability
   A single, visible owner for safety and complaints with published SLA targets (e.g., first response within 15 minutes; resolution within 48 hours) demonstrates benevolence and reliability [19], [20], [31].
3. Verifiable Identity and Presence
   On-site staff identity verification (badges with scannable QR), body-cam policies, and real-time patrol heatmaps provide guardian visibility—reducing PSD and signalling institutional competence [11], [12], [33].
4. Two-Sided Feedback Loops
   Platform-style rider–staff feedback, publicly summarized monthly, increases procedural justice perceptions and institutional learning [19], [18].
5. Assurance Mechanisms for Harassment and Safety
   Non-retaliatory reporting, survivor-centric protocols, and independent audits strengthen integrity perceptions and reduce gendered TA gaps [12], [33].

F. Measurement: A Practical TA Index for Indonesian Transit

To operationalize TA in practice, agencies can deploy a Trust Asymmetry Index (TAI) comprising:

- Trust in Public Transit (TPT): perceived ability, integrity, benevolence, transparency (Likert scales).
- Trust in Platforms/Private Mobility (TPM): same constructs.
- Asymmetry Score: *TPM – TPT*, segmented by gender, age, purpose, and time-of-day.

Tracking TAI alongside service KPIs (headway, load factor, on-time performance) enables agencies to attribute ridership changes to trust shifts rather than only to operational metrics [14], [29], [32].

G. Implications for Indonesian Smart Mobility

Rebalancing TA is pivotal to Indonesia's equitable, sustainable modal shift. Embedding transparency, verifiability, and redressability into transit's everyday touchpoints can close the experience gap with platforms and unlock the full impact of functional upgrades. Section VI will integrate TA and PSD into a unified interpretive model and derive best-practice design principles for Indonesia's Trust-and-Safety Signalling Mix.

VI. Integrative Model & Best Practices

This section integrates Psychological Safety Deficit (PSD) and Trust Asymmetry (TA) with traditional service determinants to explain persistent public transport avoidance in Indonesia and derives an actionable Trust-and-Safety Signalling Mix for operators and authorities.

A. An Integrative Interpretive Model

We conceptualize public transport choice as a high-credence service adoption problem where functional attributes (reliability, cleanliness, price, accessibility) operate through and alongside two higher-order mechanisms:

1. Psychological Safety Deficit (PSD)—users' perceived lack of agency, predictability, dignity, and emotional security in shared mobility contexts [11], [12], [27], [28].
2. Trust Asymmetry (TA)—systematic imbalance in confidence between platform/private mobility and public/institutional transit, anchored in perceived transparency, accountability, and redress [13], [14], [29], [32].

Core logic.

- Functional upgrades (e.g., shorter headways) reduce uncertainty and can lower PSD, but their ridership impact is attenuated when TA remains high—i.e., users still believe institutional responses are opaque or unaccountable [1], [2], [41], [32].
- Conversely, credence-based signals (transparency dashboards, verified staff identity, grievance SLAs) directly target TA and indirectly alleviate PSD, magnifying the payoffs from functional improvements [19], [20], [29], [32], [33].
- Service environment cues (lighting, visibility of guardians, wayfinding clarity) shape affective appraisals in "servicescapes," further moderating PSD during the journey [11], [12], [34].
- Propositions (for future empirical testing)
- P1 (Amplification): The negative effect of PSD on willingness to use public transport is stronger when TA is high.
- P2 (Moderated Returns): The positive effect of reliability on ridership exhibits diminishing returns unless complemented by transparency and redress signals that reduce TA.
- P3 (Cue Dominance): In high-uncertainty contexts, credence cues (transparency, verifiability) outweigh marginal functional gains in shifting avoidance behaviour.
- P4 (Gendered Moderation): Anti-harassment and guardian-visibility cues disproportionately reduce PSD for women, increasing their propensity to ride [11], [12].

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- P5 (First/Last-Mile): Predictability and safety cues in first/last-mile segments mediate the effect of core system quality on overall adoption [1], [24], [11].

B. Translating the Model into Design Principles

Grounded in signalling theory (how credible, costly-to-fake signals reduce information asymmetry) and service quality/recovery literature, we derive five principles to convert the model into practice [4], [8], [19], [20], [32], [35], [36]:

1. Make Safety & Accountability Observable
   - Convert back-office safety/enforcement processes into legible public signals (e.g., incident dashboards, response time stamps, outcome codes) to lower TA and PSD simultaneously [21], [22], [29], [32].
2. Engineer Predictability at Micro-Moments
   - Provide granular, reliable micro-forecasts (headway, crowding, seat availability, egress options), especially at transfer points, to return agency to riders and reduce PSD [1], [2].
3. Design Servicescapes for Felt Security
   - Improve lighting, sightlines, escape routes, staff presence visibility, and anti-harassment signage; these environmental cues measurably lower fear and avoidance [11], [12], [34].
4. Institutionalize Redress and Procedural Justice
   - Publish grievance SLAs, offer multi-channel reporting (anonymous options), and provide status tracking with closure documentation; procedural clarity enhances perceived integrity [19], [20], [29], [32].
5. Mirror Platform-Era Trust Artifacts
   - Verify staff identity (QR-badges), enable two-way feedback, and push real-time updates during disruptions; these interface-level assurances narrow TA by aligning transit touchpoints with platform norms [16], [18], [33].

C. The Trust-and-Safety Signalling Mix (Operational Playbook)

Below are operational levers mapped to their primary target (PSD, TA) and expected effect pathways. (*Abbreviations: Rel = Reliability; Acc = Accessibility; Comf = Comfort.*)

- Public Incident & Safety Dashboard (Open Data) — TA↑↓, PSD↓
  Monthly + real-time incident logs, response time SLAs, case outcomes; third-party audit summaries [21], [22], [32], [33].
- Guardian Visibility Package — PSD↓
  Staff heatmaps, scheduled patrol windows, body-cam policy with privacy safeguards; visible whistle-stop points [11], [12].
- Predictability Nudges — PSD↓, Rel↑
  Headway/crowding forecasts, carriage-level load heatmaps, transfer-time guidance, exit routing; reliability signals at transfer nodes [1], [2].
- Redress & Grievance SLAs — TA↓
  Multi-channel reporting (app/WhatsApp/phone/booth), ticket IDs, time-bound responses (e.g., 15-minute first reply; 48-hour resolution), status trackers [19], [20], [29].
- Verified Identity & Wayfinding — PSD↓, TA↓
  Scannable staff IDs, real-name shift rosters, role visibility (Operations/Safety/Help), dynamic wayfinding with safe-path overlays [34].
- Gender-Sensitive Design & Campaigns — PSD↓
  Priority zones, women-only carriages (where culturally appropriate), CCTV coverage disclosure, and survivor-centric reporting protocols [11], [12].
- Service Recovery Rituals — TA↓, Rel↑
  Post-incident debriefs, compensation rules, and public learning notes ("what changed")—signal integrity and competence [19], [20], [36].
- Community Co-Monitoring — TA↓
  Civil society observers, monthly dashboards co-signed by independent bodies; strengthens perceived benevolence and integrity [29], [32], [33].

D. Measurement & Management: KPIs that Reflect the Model

To manage what matters, agencies should track credence-aware KPIs alongside operational ones:

- TA Index (TAI): Difference between trust in platforms/private mobility and trust in public transit across ability, integrity, benevolence, transparency; segmented by gender, age, purpose, time-of-day [14], [29], [32].
- PSD Score: Composite of felt control, predictability, fear/harassment concern, and services cape comfort; collected at stations and in-vehicle [11], [12], [34].
- Credence Cue Reliability: Accuracy of headway/crowding forecasts; % disruptions with timely, specific communication; SLA adherence for grievances [1], [2], [29].
- Service Recovery Outcomes: % cases resolved within SLA; perceived fairness of outcomes; post-incident willingness to ride [19], [20], [36].
- Equity Lenses: PSD/TA gaps by gender and vulnerable groups; improvement trends after targeted interventions [11], [12].

E. Implementation Roadmap (90–180 Days)

1. Day 0–12: Transparency Foundations
   - Publish minimum viable incident dashboard; define SLA policy and reporting channels; pilot staff ID verification at key hubs [29], [32].
2. Day 31–90: Predictability & Servicescapes
   - Roll out crowding/headway forecasts; upgrade lighting/sightlines; implement guardian visibility schedule; launch anti-harassment protocol [1], [2], [11], [12], [34].
3. Day 91–180: Recovery & External Credibility
   - Formalize service recovery rituals (compensation tiers, public learning notes); onboard independent oversight; begin monthly TAI/PSD reporting [19], [36].

F. Research Agenda Emerging from the Model

- Causal Identification: Field experiments testing marginal effects of credence signals vs. functional improvements on ride choice (e.g., A/B of dashboards, SLAs, guardian-visibility prompts) [1], [2], [29].
- Gender-Sensitive Efficacy: Heterogeneous treatment effects of anti-harassment and visibility interventions on PSD and ridership [11], [12].
- Longitudinal TA Dynamics: Whether sustained transparency practices durably reduce TA and strengthen responsiveness expectations [29], [32].
- First/Last-Mile Interface: Optimal orchestration between public transit and platform-based feeders to minimize PSD during transfers [16], [18].

VII. Case Studies of PSD and Trust Asymetry in Indonesia Public Transport

A. What examples illustrate how PSD and TA shape public transport behavior in Indonesia?

Several documented cases within Indonesia's mobility ecosystem illustrate how Psychological Safety Deficit (PSD) and Trust Asymmetry (TA) manifest in real settings. Reports from Jakarta's BRT and MRT systems consistently highlight incidents involving harassment in crowded spaces, ambiguous enforcement actions, and inconsistent communication during service disruptions [11], [28], [37]. These events exemplify PSD, where users experience heightened emotional vulnerability due to inadequate environmental cues and limited guardian visibility.

Similarly, investigations into the public response to LRT Jabodebek's early operational issues—including system resets, passenger evacuations, and communication delays—demonstrate TA in action. Even when safety was technically maintained, the lack of clear, real-time updates and absence of publicly visible incident resolutions contributed to declining trust in institutional competencies [38].

Conversely, Jakarta's MRT offers counter-examples where strong platform-like transparency cues—structured passenger announcements, staff visibility, and a consistent service recovery protocol—have helped moderate PSD and reduce TA gaps relative to older modes [39]. These cases collectively illustrate the spectrum of trust and safety signals across Indonesian transit systems.

B. How have these case studies impacted the development of Indonesian mobility systems?

These case studies demonstrate that addressing PSD and TA has direct implications for user behavior, public perception, and institutional legitimacy. Harassment-related cases accelerated the implementation of women-only carriages, CCTV network expansion, and anti-harassment campaigns, indicating recognition that emotional safety concerns significantly influence ridership patterns [28], [37].

Operational disruptions in LRT systems similarly catalyzed revisions to incident-reporting protocols and the integration of open data dashboards, reflecting a growing governmental acknowledgment that transparent communication is essential for reducing TA [38].

MRT Jakarta's stronger emphasis on predictability cues and service certainly has contributed to higher user satisfaction levels compared to other modes, reinforcing evidence that passengers reward systems that deliver consistent emotional and informational reassurance [39]. These impacts align with findings from international transit safety research showing that cumulative improvements to trust and psychological security foster long-term modal loyalty [11], [12].

C. What lessons can be learned from these case studies for future developments?

Three key lessons emerge.

- First, functional quality alone cannot overcome PSD; systems with good operational performance still struggle to attract riders when psychological safety cues are absent. This mirrors global findings that fear, harassment, and crowding shape avoidant behavior even when objective risk levels are low [11], [12], [28].
- Second, TA reduction requires transparency, not merely assurances. Cases involving communication delays or incomplete incident explanations illustrate how quickly public confidence deteriorates when institutions fail to

provide verifiable updates [38]. Trust repair is most effective when institutions adopt open, consistently managed transparency mechanisms.

- Third, the MRT Jakarta example shows that platform-era trust artifacts—predictability, visibility, rapid communication—can be successfully adapted to public transit. This reaffirms international findings on the value of translating digital-platform norms (real-time feedback, identity verification, structured redress) into traditional service settings [18], [33].

Together, these lessons underscore the necessity of a holistic design philosophy that integrates emotional safety, transparent governance, and trust-building processes into Indonesia's public transport modernization efforts.

VIII. Future Directions for Indonesian Public Transport Research and Practive

A. What are the emerging trends shaping the future of Indonesian public transport?

Several emerging trends indicate a shift from infrastructure-centric strategies toward credence-driven mobility design, where transparency, predictability, and perceived safety become central components of public transport modernization.

First, Indonesian transport agencies are gradually adopting transparency-by-design mechanisms, such as real-time disruption communication, incident reporting dashboards, and structured service recovery processes—approaches shown to strengthen institutional trust and reduce passenger uncertainty [29], [32], [39].

Second, the expansion of predictive passenger information systems, including headway reliability indicators, crowding forecasts, and dynamic routing guidance, signals a move toward reducing informational asymmetry and restoring user agencies in decision-making [1], [2].

Third, gender-sensitive safety initiatives—ranging from enhanced services cape visibility to dedicated reporting channels for harassment—are gaining prominence as agencies seek to address disproportionate psychological burdens faced by women and vulnerable groups [11], [12], [28].

Lastly, public transport operators are beginning to integrate platform-style trust artifacts, such as identity verification for staff, timestamped notifications, and two-way feedback systems, to narrow the Trust Asymmetry (TA) gap between public services and private mobility platforms [18], [33], [39].

B. How can future challenges in integrating PSD and TA be addressed?

One major challenge is that improvements in functional attributes—such as punctuality and cleanliness—often yield limited behavioral change when Psychological Safety Deficit (PSD) and TA remain high [1], [2], [11], [12]. To address this, agencies must pair operational improvements with credence-based interventions, including real-time disruption playbooks, public-facing incident logs, and consistent communication standards [29], [32].

Another challenge arises from fragmented institutional responsibilities, which undermine accountability and contribute to persistent TA. Establishing a single accountable authority for safety, complaints, and service recovery—supported by measurable service-level agreements (SLAs) and independent external audits—can enhance institutional credibility [31], [32], [38].

Gendered vulnerability is also a critical challenge. Women's elevated fear of harassment reinforces PSD and reduces willingness to use mass transit. Implementing survivor-centric reporting mechanisms, expanding lighting and surveillance, and increasing trained personnel presence during peak and late-night hours can meaningfully reduce psychological barriers [11], [12], [28].

Finally, agencies must invest in credence-aware measurement tools, such as a Trust Asymmetry Index (TAI) and PSD Score, collected regularly and segmented by demographic factors. These metrics enable policymakers to identify psychological and relational barriers that are not captured by traditional operational KPIs [34].

C. What role will policymakers, technologists, and society play in shaping Indonesia's public transport future?

Policymakers will be central to institutionalizing transparency mandates, establishing minimum safety and grievance-handling standards, and enforcing inter-agency data integration to reduce governance fragmentation [29], [32]. They also play a key role in embedding psychological safety and gender inclusive requirements into transport regulations and contracts.

Technologists are expected to develop AI-enabled crowding forecasts, real-time safety analytics, identity verification systems, and accessible multi-channel reporting tools. Ethical design principles must guide these technologies to prevent unintended bias and ensure usability across demographic groups [33].

Civil society, including NGOs, community advocacy groups, and commuter associations, contributes to monitoring, co-auditing, and safety co-production. Their participation in transparency oversight, harassment reporting campaigns, and user feedback channels enhance institutional accountability and fosters long-term trust [11], [12], [29].

Together, policymakers, technologists, and society must align efforts to build a public transport ecosystem where psychological safety, institutional trust, and people-centered design become central pillars of Indonesia's sustainable mobility transition.

IX. CONCLUSION

The examination of public transport avoidance in Indonesia through the dual lenses of Psychological Safety Deficit (PSD) and Trust Asymmetry (TA) offers a more comprehensive and nuanced understanding of mobility behavior than explanations based solely on functional attributes such as reliability, cleanliness, or travel time. This review highlights that public transport decisions are shaped not only by operational realities but also, and often more profoundly, by perceptions of personal safety, emotional security, predictability, and institutional credibility [11], [12], [29], [32].

The Indonesian context presents particularly strong manifestations of PSD due to persistent concerns about harassment, overcrowding, poor services cape visibility, and limited real-time information. At the same time, TA is reinforced when riders perceive public agencies as lacking transparency, procedural justice, or responsiveness to incidents, especially when compared to private mobility platforms that embed trust-building design features such as verified identities, two-way feedback, and traceable interactions [18], [33], [39].

This review demonstrates that functional improvements alone are insufficient to drive meaningful modal shifts unless accompanied by credence-oriented interventions that reduce PSD and rebuild institutional trust. The synthesis of literature suggests that transparency-by-design, gender-sensitive safety frameworks, staff visibility, predictable micro-information, and structured grievance mechanisms are essential components of a redesigned public transport experience suited to Indonesia's social and cultural context.

Furthermore, the proposed Trust-and-Safety Signaling Mix offers a strategic framework for operationalizing PSD- and TA-reducing interventions across agencies. Future research should prioritize empirical testing of these mechanisms, assess heterogeneous user impacts (especially by gender and trip purpose), and explore longitudinal trust dynamics as new transparency and safety protocols are introduced.

In conclusion, Indonesia's path toward sustainable and inclusive mobility requires embracing a paradigm in which psychological safety, institutional trustworthiness, and human-centered design stand alongside infrastructure development and service reliability. By integrating these dimensions, policymakers, technologists, and society can collectively foster a public transport ecosystem that is not only efficient, but also safe, trusted, and truly welcoming to all.

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