

Why Customers Resist Augmented Reality in Retail: A Conceptual Framework for Southeast Asian Markets

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ABSTRACT

Augmented reality (AR) can enrich retail journeys by allowing customers to visualise products, conduct virtual try-ons, and interact with product information within a physical or digitally mediated setting. Nevertheless, a technically impressive application may remain unused when customers perceive it as difficult, intrusive, unreliable, unnecessary, or incompatible with established shopping practices. These concerns are especially relevant to Southeast Asian retail, where rapidly developing mobile commerce coexists with differences in device access, digital confidence, regulatory environments, retail formats, and cultural shopping practices. This conceptual paper examines customer-perceived barriers to AR adoption through Innovation Resistance Theory (IRT), supplemented by trust, perceived-risk, and facilitating-condition perspectives. The synthesis distinguishes usage, value, risk, tradition, and image barriers and applies them to customer-facing AR. It proposes that interface complexity and technical friction create usage barriers; visualisation inaccuracy and uncertain diagnostic value create value and performance-risk barriers; camera, biometric, and spatial-data concerns weaken trust; device and connectivity constraints obstruct enactment; established tactile and social shopping practices strengthen tradition barriers; and gimmick-like or unreliable positioning creates image barriers. Digital literacy, AR familiarity, trust assurances, and product category are proposed as boundary conditions. The paper contributes a customer-centred framework that treats resistance as an active and theoretically meaningful response rather than the simple absence of adoption. For managers, the analysis indicates that AR success depends on reducing friction and risk, demonstrating decision value, protecting data, and integrating AR with, rather than indiscriminately replacing physical retail experiences. Because customer-level evidence from Southeast Asia remains limited and uneven, the proposed relationships are presented as testable propositions rather than empirically established regional effects. The paper therefore specifies a multi-country validation agenda that prioritises causal ordering, measurement equivalence, product-category differences, AR familiarity, and the distinction between initial adoption and continued use.

Keywords— Augmented Reality, Customer Resistance, Innovation Resistance Theory, Perceived Risk, Retail Adoption, Southeast Asia

INTRODUCTION

AR has become a visible component of retail digitalisation because it can place virtual objects, information, or effects within a user's perception of the real environment (Azuma, 1997). In customer-facing retail, AR commonly appears as furniture placement, cosmetic and accessory try-on, apparel or footwear visualisation, in-store information overlays, and camera-based product exploration. Its strategic promise lies in helping

customers evaluate products that are otherwise difficult to imagine online while also creating a more interactive customer experience (Caboni & Hagberg, 2019; Flavián et al., 2019; Hilken et al., 2017).

The benefits reported in the literature are substantial but conditional. AR can improve mental imagery and reduce the effort required to imagine product use (Heller et al., 2019a). Interactivity and vividness can support enjoyment, immersion, usefulness, and favourable e-commerce responses (Yim et al., 2017). AR may also increase customer engagement and make retail interactions more memorable (Javornik, 2016; McLean & Wilson, 2019). Yet these positive responses should not be interpreted as evidence that all customers will accept, repeatedly use, or trust AR applications.

Resistance is theoretically different from low intention. A customer may actively avoid an application because it asks for camera access, conflicts with a preferred shopping routine, produces an implausible visualisation, or demands more effort than the expected benefit justifies. Innovation Resistance Theory (IRT) explains this response by treating resistance as a normal consumer reaction when an innovation change established habits or creates functional and psychological conflict (Ram & Sheth, 1989). This perspective is useful for AR because the technology enters intimate decision settings: it may capture images of faces, bodies, and homes while asking customers to rely on a digital representation when evaluating a physical product.

A Southeast Asian perspective adds practical and theoretical relevance, but the region should not be represented as culturally or technologically uniform. Its markets differ in purchasing power, infrastructure, regulation, urbanisation, retail development, and consumer experience with immersive technology. Available regional AR studies are also uneven. A Malaysian study examined AR adoption within the retail sector through an extended technology-acceptance framework (Alam et al., 2021), while a Vietnamese study investigated organisational motivations and barriers among retail owners and managers (Nguyen, 2022). Both studies demonstrate regional business interest, but neither should be treated as direct evidence of customer-level resistance across Southeast Asia. A conceptual paper is therefore valuable because it can integrate established customer research with regional evidence while making clear where empirical validation remains necessary.

This paper answers that question by developing an IRT-based framework for customer resistance to retail AR in Southeast Asian markets. It makes four contributions. First, it distinguishes resistance barriers from the absence of favourable beliefs. Second, it connects specific AR frictions to IRT's usage, value, risk, tradition, and image barriers. Third, it introduces trust, digital literacy, AR familiarity, and product category as conditions that can intensify or weaken resistance. Fourth, it translates the framework into an empirical agenda suitable for business and management research. Throughout the paper, Southeast Asia-specific statements are separated from propositions transferred from the broader international AR literature; the latter are treated as hypotheses requiring regional consumer-level validation.

METHODOLOGY

The paper adopts an integrative conceptual review and theory-adaptation design. Integrative reviews are appropriate when research is dispersed across theoretical traditions and the objective is to critique and combine insights in order to develop a new framework (Snyder, 2019). The design follows Jaakkola's (2020) recommendation that conceptual research should specify its theoretical approach, explain how the literature is used, and make the logic connecting constructs visible. IRT serves as the primary theory because the focal phenomenon is resistance rather than acceptance. Trust, perceived risk, technology acceptance, and facilitating conditions are used as complementary lenses where IRT alone does not fully explain AR-specific concerns.

The review was organised by concept rather than by author or chronology. A concept-centric structure is suitable for developing relationships among fragmented findings and avoiding a descriptive sequence of article summaries (Webster & Watson, 2002). The intended contribution is a theory-adaptation model: the established IRT barrier categories are reinterpreted for customer-facing AR and situated within Southeast Asian retail. The paper does not claim exhaustive systematic-review coverage or meta-analytic inference.

Structured searches combined "augmented reality" with "retail," "online shopping," "mobile shopping," "virtual try-on," "adoption," "resistance," "privacy," "risk," "trust," "usability," "continuance," "Southeast Asia," "Malaysia," and "Vietnam." Searches were conducted through academic discovery services and then verified

against publisher and Crossref records. Foundational theory and methodology papers were included even when they predated mobile AR. The substantive review primarily covers 1997–2025.

A source was retained when it was published in English; had a verifiable bibliographic record and DOI; addressed customer-facing AR, retail technology adoption or resistance, perceived risk or trust, Southeast Asian AR implementation, or conceptual-review methodology; and provided a concept or finding directly relevant to the framework. Purely technical computer-vision studies, non-retail AR applications without transferable adoption insight, unverified manuscripts, and promotional industry claims were excluded. Regional organisational studies were retained to establish context, but they were not used as substitutes for consumer-level evidence.

The analysis proceeded through three cycles. In the first cycle, reported AR challenges and antecedents were coded as technological, informational, economic, privacy-related, experiential, social, or habitual. In the second cycle, these codes were mapped onto IRT's functional barriers namely the usage, value, and risk, as well as psychological barriers in term of tradition and image (Ram & Sheth, 1989). In the third cycle, recurring mechanisms that could alter the strength of resistance were identified. These included trust, digital literacy, AR familiarity, product category, and facilitating conditions.

The proposed relationships were then compared with evidence from technology-acceptance and AR-experience studies. This step was necessary because resistance and acceptance are related but not identical processes. For example, ease of use can strengthen acceptance, whereas perceived complexity can create a usage barrier; perceived usefulness can strengthen adoption, whereas doubtful diagnostic value can create a value barrier. Propositions were formulated where the theoretical logic was consistent and relevant evidence was available. The procedure follows management-review guidance that conceptual synthesis should be transparent about the movement from literature identification to categorisation and theory development (Paul & Criado, 2020; Snyder, 2019; Tranfield et al., 2003).

LITERATURE REVIEW

Augmented Reality Adoption and Resistance in Retail

AR retail research has often emphasised how the technology improves the customer experience. It can externalise mental imagery, allow products to be examined within a personally relevant setting, and increase the perceived informativeness of an interface (Heller et al., 2019a; Smink et al., 2019). Studies have also examined how AR affects product attitude, store attractiveness, patronage intention, satisfaction, willingness to buy, and engagement (Bonnin, 2020; Fan et al., 2020; Poushneh & Vasquez-Parraga, 2017). These outcomes explain the managerial enthusiasm surrounding virtual try-on and product-placement tools.

The same characteristics that create value can also generate resistance. Visual immersion depends on camera access and may require the customer to expose facial, bodily, or household information. Personalisation can become intrusive. A realistic product overlay can build confidence, but a poorly aligned or inaccurate representation can increase uncertainty. An application may be enjoyable in a demonstration but burdensome during an ordinary purchase. AR therefore contains a duality: the technology can reduce one form of uncertainty while creating new technological, privacy, and performance uncertainties.

IRT provides language for analysing this duality. Ram and Sheth (1989) distinguish functional barriers from psychological barriers. Functional barriers concern the operation and consequences of an innovation: whether it is difficult to use, lacks value, or creates risk. Psychological barriers arise when an innovation conflicts with established traditions or carries an undesirable image. Later technology-resistance research has shown that these categories remain useful in explaining consumer resistance to digital payment and other retail innovations (Kaur et al., 2020).

Resistance should be treated as a process. Before trial, customers may anticipate complexity, privacy loss, or limited value. During trial, they encounter actual latency, calibration, rendering quality, and permission requests. After trial, they decide whether the feature deserves continued use. Continuous-intention research in AR retail indicates that post-use evaluations matter for whether customers remain engaged with branded AR applications

(Nikhashemi et al., 2021). The proposed framework therefore addresses adoption and continued use, not merely first exposure.

Southeast Asia as a Context, Not a Single Market

The Southeast Asian focus is justified by the coexistence of expanding digital retail and considerable market diversity. However, conceptual arguments must avoid converting national or regional labels into untested cultural explanations. Singapore, Malaysia, Indonesia, Thailand, Vietnam, the Philippines, Brunei, Cambodia, Laos, Myanmar, and Timor-Leste differ in infrastructure, income distribution, language, regulation, urban density, retail institutions, and platform use. These differences can alter both the barriers customers experience and the resources available to overcome them.

Existing regional research provides useful signals. Alam et al. (2021) examined Malaysian retail-sector adoption and highlighted the relevance of usefulness, ease, self-efficacy, technological knowledge, perceived cost, and environmental pressures. Nguyen (2022) found that organisational attitude and innovativeness were important among Vietnamese retail SMEs, while cost barriers influenced organisational attitude. These are organisational studies, yet they suggest that AR adoption in the region is embedded within resource, capability, and competitive conditions rather than driven by customer enthusiasm alone.

Customer-level propositions should consequently be tested within and across specific countries. A difference observed between Malaysia and Vietnam, for example, should not automatically be attributed to “culture”; it may reflect application quality, sample composition, urban access, product category, prior AR familiarity, or retailer capability. The present framework treats Southeast Asia as a theoretically informative setting in which the distribution of facilitating conditions and shopping practices may make resistance especially visible. It does not assume that all consumers within the region share the same preferences.

FINDINGS AND DISCUSSION

Conceptual Framework and Propositions

Usage Barrier: Perceived Complexity And Interaction Friction

The usage barrier arises when an innovation is incompatible with the consumer’s existing workflow or requires substantial learning and behavioural change (Ram & Sheth, 1989). In retail AR, friction can occur when customers must locate a hidden feature, grant unfamiliar permissions, scan a surface, maintain a particular camera angle, correct unstable alignment, or repeat failed steps. Expected-user-experience research in shopping centres has shown that customers evaluate mobile AR in relation to usefulness, ease, social acceptability, and contextual fit rather than as an isolated technical artefact (Olsson et al., 2013).

Technology-acceptance studies support the importance of ease-related beliefs in AR (Huang & Liao, 2015; Rese et al., 2017). From an IRT perspective, however, the question is not only whether the application appears easy. It is whether the required interaction disrupts the customer’s preferred way of shopping. A feature that adds several steps to a low-involvement purchase may be resisted even if it is technically learnable. The barrier is therefore relational: complexity is judged against the expected benefit and the customer’s usual decision process.

Proposition 1: Perceived complexity and interaction friction increase the usage barrier, which in turn increases customer resistance to retail AR.

Value barrier: unclear usefulness and inaccurate representation

A value barrier occurs when an innovation does not offer a sufficiently superior performance-to-effort ratio compared with existing alternatives (Ram & Sheth, 1989). In retail AR, value depends on whether the representation is diagnostically useful. A furniture model that is incorrectly scaled, a cosmetic shade that renders inaccurately, or a virtual try-on that poorly follows the body can produce false confidence or additional uncertainty. Cognitive research shows that AR can improve product attitude when it supports effective information processing (Fan et al., 2020), while mental-imagery studies demonstrate how well-designed augmentation can make evaluation easier (Heller et al., 2019a). These benefits are unlikely to emerge when

rendering quality is poor.

Customers also compare AR with familiar alternatives. Product photographs, videos, size guides, reviews, live chat, and physical inspection may already provide adequate information. If AR requires more time without improving the decision, its relative value is weak. The issue is therefore not novelty but incremental usefulness. A customer may enjoy the feature and still conclude that it adds little to the purchase.

Proposition 2a: Perceived inaccuracy of AR product representations increases the value barrier and customer resistance.

Proposition 2b: Unclear incremental usefulness relative to existing shopping aids increases the value barrier and customer resistance.

Risk barrier: privacy, security, performance, and financial concerns

AR can reduce product uncertainty, yet it also creates risks. Bonnin (2020) found that perceived risk and familiarity are important in understanding how AR influences online-store responses. Privacy risk is particularly salient because virtual try-on and placement tools may access facial images, body representations, or views of private spaces. Smink et al. (2019) showed that AR shopping experiences are connected to both brand responses and willingness to disclose personal data, demonstrating that data disclosure is not peripheral to the retail experience.

Customers may not know whether visual information is processed locally, transmitted to a server, retained, combined with profile data, or used for later targeting. Technical permissions can therefore become trust judgements. Security concerns arise when customers fear unauthorised access or secondary use. Performance risk occurs when the augmented representation causes an unsuitable purchase. Financial risk follows when that purchase creates return costs or loss, while psychological risk appears when the experience creates embarrassment, anxiety, or disappointment.

Trust can reduce, but not eliminate, these concerns. Trustworthiness requires credible governance, transparent explanations, data minimisation, usable consent, and reliable technical performance. A long privacy notice alone is unlikely to offset an intrusive request that appears unnecessary for the task.

Proposition 3a: Privacy and security concerns increase the risk barrier and customer resistance to retail AR.

Proposition 3b: Perceived performance and financial risks arising from inaccurate AR-assisted decisions increase customer resistance.

Proposition 3c: Trust in the retailer and AR application weakens the positive relationship between perceived risk and customer resistance.

Facilitating constraints: device, connectivity, and contextual access

Retail AR depends on resources beyond motivation. The customer needs compatible hardware, sufficient processing capacity, functional sensors, available storage, acceptable connectivity, and an environment in which the camera can be used. Mobile AR research has long treated the application as part of a broader retail service setting rather than a stand-alone interface (Dacko, 2017). The distribution of these conditions may be especially consequential in markets where customers use devices with widely varying capabilities.

Facilitating constraints differ from the usage barrier. A customer may understand the application and want to use it but be unable to do so because the device is unsupported, the connection is unstable, or the desired product lacks an AR model. These constraints interrupt the conversion of acceptance into behaviour. They may also create resistance over time if repeated failures teach the customer that the feature is unreliable.

Proposition 4a: Device, connectivity, and content-availability constraints reduce the likelihood that favourable AR evaluations become actual use.

Proposition 4b: Repeated facilitating-condition failures increase usage and image barriers, thereby strengthening customer resistance.

Tradition barrier: tactile, social, and established shopping practices

The tradition barrier arises when an innovation conflicts with established norms or routines (Ram & Sheth, 1989). Retail purchases are not uniformly informational. Customers may value touching a material, assessing weight, trying an item in a fitting room, receiving advice from a salesperson, shopping with family, or using a familiar marketplace. AR cannot completely reproduce these sensory and social elements. Research comparing touch and non-touch interfaces shows that interaction modality can affect perceived ownership, illustrating why a visual overlay is not always equivalent to physical contact (Bregman et al., 2019). Multi-sensory AR can partly narrow this gap by enriching product interaction, but its ability to reproduce material experience remains task- and design-dependent (Heller et al., 2019b).

The implication is not that Southeast Asian consumers universally prefer physical shopping. Rather, the strength of the tradition barrier should vary by customer, product, occasion, and retail setting. A furniture-placement tool may complement a store visit, while an AR apparel try-on may be resisted when fabric feel and social feedback are decisive. The barrier becomes stronger when retailers frame AR as a substitute for valued practices rather than as a support for them.

Proposition 5a: A strong preference for tactile and interpersonal product evaluation increases the tradition barrier and customer resistance to retail AR.

Proposition 5b: Positioning AR as a complement to physical shopping weakens the tradition barrier more effectively than positioning it as a replacement.

Image barrier: gimmick perceptions and negative prior experience

An image barrier develops when an innovation is associated with an unfavourable category, provider, or stereotype (Ram & Sheth, 1989). Retail AR may be perceived as a gimmick when demonstrations emphasise spectacle but the application provides limited decision value. Unstable tracking, unrealistic rendering, intrusive permissions, or repeated crashes can reinforce the image of AR as immature or unreliable. Such perceptions may generalise across brands: one poor experience can shape expectations of other AR applications.

This barrier is not inevitable. Evidence on Generation Z suggests that habitual exposure and practical performance can support a shift from gimmick to utility (Schapsis et al., 2025). Inspiration and enjoyment can create positive brand responses (Rauschnabel et al., 2019), but they need to be accompanied by functional credibility. Familiarity may reduce the image barrier by making the interaction understandable, although familiarity with entertainment filters does not guarantee confidence in product accuracy.

Proposition 6a: Perceiving retail AR as gimmicky, immature, or unreliable increases the image barrier and customer resistance.

Proposition 6b: AR familiarity weakens the relationship between negative image perceptions and customer resistance when familiarity is accompanied by successful task performance.

Limited awareness, digital literacy, and customer readiness

Awareness is a precondition for adoption but should be distinguished from persuasion. Customers may be unaware that an AR feature exists, may not recognise the AR icon, or may misunderstand what data the feature requires. Digital literacy then affects whether they can evaluate and operate the tool. In technology-acceptance terms, knowledge and self-efficacy shape the perceived effort and controllability of use; in IRT terms, limited competence can intensify the usage and risk barriers.

Regional organisational research has highlighted the importance of technological knowledge and capability in Malaysian and Vietnamese retail settings (Alam et al., 2021; Nguyen, 2022). At the customer level, this relationship requires direct testing. High digital literacy may reduce operational difficulty, but it may also

increase privacy sensitivity because knowledgeable users better understand data risks. Digital literacy should therefore be modelled as a boundary condition rather than assumed to have an exclusively positive effect.

Proposition 7a: Digital literacy weakens the positive relationship between perceived complexity and the usage barrier.

Proposition 7b: Greater privacy literacy strengthens the relationship between opaque data practices and the risk barrier.

Resistance, adoption, and continued use

IRT positions resistance as an antecedent of delayed, rejected, or discontinued adoption. In AR retail, resistance may appear as refusal to grant permission, avoidance of the feature, incomplete onboarding, one-time trial without repetition, or preference for another decision aid. Continued-use research is important because a customer can adopt AR once and later abandon it when the expected value is not realised (Nikhashemi et al., 2021).

The framework therefore distinguishes initial adoption from continued use. Usage, value, risk, tradition, and image barriers are expected to increase resistance; resistance then reduces both first use and repeat use. Post-use experience can update these barriers. A successful session may reduce risk and image concerns, while an inaccurate or intrusive session may intensify them.

Proposition 8a: Customer resistance negatively influences initial adoption of retail AR.

Proposition 8b: Customer resistance negatively influences continued use of retail AR.

IRT component	AR-retail manifestation	Likely customer response
Usage barrier	Complex activation, calibration, navigation, or camera positioning	Avoidance, incomplete trial, or abandonment
Value barrier	Weak incremental usefulness or inaccurate product representation	Preference for conventional aids or physical inspection
Risk barrier	Privacy, security, performance, financial, or psychological concern	Permission refusal, distrust, or non-use
Tradition barrier	Conflict with tactile, interpersonal, or habitual shopping practices	Continued reliance on familiar channels
Image barrier	Perception that AR is gimmicky, intrusive, or unreliable	Negative expectations and resistance across applications
Facilitating constraints	Unsupported devices, weak connectivity, missing AR content, or unsuitable setting	Intention–use failure and learned non-use

Evidence Status and Integrative Discussion

The framework explains why adding more technological sophistication does not necessarily increase adoption. Higher-fidelity rendering may improve value, but a larger application or more demanding processor requirement can worsen facilitating conditions. Personalised visualisation may improve relevance while increasing privacy concern. Playful design may encourage trial yet reinforce a gimmick image if practical benefits remain unclear. Retailers therefore face trade-offs rather than a simple technology-upgrading problem.

The analysis also demonstrates why acceptance models and resistance theory should be treated as complementary. Acceptance research identifies beliefs that attract consumers, whereas IRT identifies conflicts and sacrifices that discourage them. A customer can simultaneously perceive AR as useful and risky, enjoyable and intrusive, or innovative and inconvenient. Such ambivalence is likely to be lost when research measures only a single behavioural-intention construct.

For Southeast Asian research, the most important implication is contextual discipline. Regional relevance cannot be established by attaching a cultural label to a model. Researchers should measure the conditions that plausibly

differ from device quality, connectivity, privacy knowledge, preferred retail format, prior AR experience, household purchasing practices, and product involvement. Cross-country comparisons should establish measurement equivalence before interpreting differences. Otherwise, observed effects may reflect scale meaning or sample composition rather than substantive market variation. The evidence base must also be interpreted by level. The Malaysian study by Alam et al. (2021) and the Vietnamese study by Nguyen (2022) provide Southeast Asian contextual evidence, but both are organisational or retailer-level studies rather than direct tests of customer resistance. By contrast, the mechanisms concerning AR usability, diagnostic value, perceived risk, privacy, trust, adoption, and continuance are supported mainly by broader international consumer studies (e.g., Rese et al., 2017; Bonnin, 2020; Smink et al., 2019; Nikhashemi et al., 2021; Khashan et al., 2023). Therefore, Propositions 1–8 should be read as theoretically grounded relationships to be tested in Southeast Asia, not as findings already demonstrated across the region.

Theoretical Contributions

The first contribution is the adaptation of IRT to a customer-facing immersive-retail setting. The paper maps concrete AR experiences onto the five classic barriers and demonstrates that AR's benefits and barriers often arise from the same technological affordances. Camera access enables personalisation but creates privacy risk; visual overlay improves imagery but introduces representation risk; immersion creates enjoyment but may increase effort or discomfort.

The second contribution is the distinction between barriers and constraints. A barrier is a negative customer evaluation, whereas a facilitating constraint can prevent use even when evaluation is favourable. Repeated constraints may subsequently create resistance. This temporal distinction provides a richer explanation of how non-use develops.

The third contribution concerns boundary conditions. Trust, digital literacy, familiarity, product category, and complementary channel design can alter the strength of resistance. These variables help explain why the same application may be accepted by one customer and resisted by another without attributing the difference to a vague notion of technological readiness.

Managerial Implications

Retailers should begin with decision value. AR should be deployed where scale, fit, colour, spatial placement, or self-representation is genuinely important. Accuracy should be validated under realistic lighting, skin tones, body types, devices, and physical spaces. When the technology cannot provide a reliable representation, a transparent limitation is preferable to an impressive but misleading simulation.

Privacy design should be integrated into the customer experience. Permission requests should appear when the relevant function is initiated, explain why access is needed, and indicate whether images are stored or processed locally. Data minimisation, guest access, visible deletion controls, and plain-language consent can support trust. These measures are not merely compliance tasks; they influence perceived risk and value (Smink et al., 2019).

Usability must be evaluated on representative devices rather than only premium hardware. Retailers should measure launch success, loading time, tracking stability, task completion, abandonment, and repeat use. A lightweight mode, downloadable asset options, or non-AR alternative may be necessary when connectivity is weak. Clear placement of the AR entry point and concise onboarding can reduce both awareness and usage barriers.

Finally, AR should complement the retail journey. Customers may use it before visiting a store, during an in-store comparison, or after purchase for setup and styling. Integrating the feature with physical service allows consumers to retain valued tactile and social practices while benefiting from digital visualisation. This approach is more responsive to heterogeneous Southeast Asian markets than assuming that customers want a fully virtual replacement for retail interaction.

CONCLUSION

Customer resistance to retail AR is not evidence that consumers are irrational or technologically backward. It can be a reasonable response to complexity, weak value, privacy uncertainty, inaccurate representation, resource

constraints, disruption of established practices, or an unfavourable image of the technology. IRT makes these responses visible by distinguishing usage, value, risk, tradition, and image barriers. Trust, digital literacy, familiarity, product category, and facilitating conditions then explain why resistance varies across customers and settings.

For Southeast Asian retail, the framework offers a disciplined starting point rather than a claim of regional uniformity. The region's diversity makes it an important setting in which to examine how digital retail growth interacts with uneven capabilities, different shopping practices, and evolving trust expectations. The managerial lesson is straightforward: AR adoption depends not only on what the technology can display but on whether customers find it useful, credible, respectful, accessible, and compatible with the way they want to shop. Accordingly, relationships supported only by international evidence are advanced as propositions for Southeast Asian testing, while the limited regional studies are used cautiously as contextual rather than definitive customer-level evidence.

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