

THE DIGITAL SHOPPER JOURNEY IN BALTIC DIGITAL STORES: A STAGED DIAGNOSTIC FRAMEWORK

Jacky Dhirajkumar MATWANI

Mykolas Romeris University, Lithuania

jamatwani@stud.mruni.eu

jackymatwani01@gmail.com

ORCID Id: 0009-0007-7616-3980

Abstract

Digital retail scholarship has mapped adoption thresholds and purchase journeys as parallel research streams. No integrated framework exists that traces the shopper's sequential progression from platform entry through post-purchase re-engagement, assigns stage-specific influencing factors at each point along that progression, and situates that architecture within the structural conditions of a transitional digital economy. This study addresses that absence for the Baltic-3 region: Lithuania, Latvia, and Estonia. Drawing on the Technology Acceptance Model and the Consumer Decision Journey as complementary theoretical lenses, proposing a staged diagnostic architecture, stage-by-stage analytical instrument which maps four sequential journey stages against their dominant behavioural determinants. Consumer trust governs the pre-purchase acceptance threshold. Interface quality suppresses perceived risk during active evaluation. Trust and perceived risk converge as opposing co-determinants at the moment of purchase. Logistics reliability determines post-purchase loyalty re-entry or exit. Baltic-specific friction amplifiers, rooted in the region's uneven digital skills penetration and structurally significant cross-border e-commerce volume, contextualise each stage's behavioural mechanics within the regional retail environment. Three falsifiable propositions operationalize the framework as a partial least squares structural equation modelling agenda across stratified Baltic consumer samples. The result advances TAM scholarship beyond the adoption threshold, CDJ scholarship beyond descriptive stage mapping, and Baltic digital commerce research beyond macro-level adoption metrics which is for the first time within a single integrated architecture.

Key words: digital shopper journey; Technology Acceptance Model; Consumer Decision Journey; Baltic e-commerce; digital consumer behaviour.

JEL Classification: L81; M31; D12

I. INTRODUCTION

Digital retail is no longer an auxiliary channel. Across the European Union, 77% of internet users made at least one online purchase in 2024, a figure that continues rising despite macroeconomic pressure (Eurostat, 2024). E-commerce now constitutes a structural layer of modern consumption and not a behavioural exception. For retailers, this shift has rendered the physical store journey insufficient as a conceptual reference point. The digital store operates by different mechanics: attention is scarcer, exits cost nothing, and trust must be established within seconds. Understanding how shoppers navigate these environments, and what drives or disrupts that navigation, has become a core strategic and scholarly problem.

The Baltic states occupy an instructive position in this landscape. Estonia registers the highest digital commerce participation among the three, tracking measurably above Latvia and Lithuania, which themselves trail the EU average by a non-trivial margin (Eurostat, 2024; Rivza et al., 2020). This intra-regional variance is not incidental. It reflects differences in digital infrastructure maturity, consumer trust levels, and the uneven penetration of digital skills across the three economies (Hunady et al., 2022). Yet these adoption figures describe outcomes, not processes. They confirm that Baltic shoppers arrive at digital stores in varying numbers. They say nothing about what happens once those shoppers are inside. Such as which stages of the journey generate friction, which factors determine whether a session converts, and why the same regional consumer abandons a cart on one platform and completes a purchase on another.

The Technology Acceptance Model has generated substantial insight into why consumers elect to use digital retail platforms, perceived usefulness and ease of use remain empirically robust predictors of adoption intent (Musa et al., 2024; Hossain et al., 2023). What TAM does not do is follow the shopper inside. Its architecture is static: it explains entry into digital commerce, not the behavioural trajectory across stages once that threshold is crossed. Extending TAM to capture sequential journey dynamics requires external variables the original model neither specifies nor prioritizes (Afrin et al., 2025). The Customer Decision Journey addresses this sequentially but introduces its own constraint. Santos et al. (2021) document that CDJ's theoretical foundations remain fragmented across market contexts, with stage-specific factor attribution poorly resolved. Sharma et al. (2023) demonstrate further that consumer decision pathways in digital environments are no longer strictly sequential. Attention can collapse directly into purchase action, bypassing stages the CDJ treats as obligatory. Critically, both frameworks were developed and stress-tested in digitally mature, high-income markets. Their application to transitional digital economies where trust infrastructure, digital skill penetration, and consumer readiness differ structurally rests on an assumption of transferability the Baltic literature has not examined (Cesnauskiene, 2019; Hunady et al., 2022).

This study responds to these converging theoretical and contextual deficiencies by proposing an integrated conceptual framework for the digital shopper journey in the Baltic retail context. It is argued that neither TAM nor CDJ, applied independently, provides sufficient explanatory architecture for this purpose. TAM establishes the conditions under which Baltic consumers enter digital retail environments but offers no mechanism for tracing what drives or disrupts behaviour at each subsequent stage. CDJ supplies the sequential logic which further mapping the journey from awareness through consideration, purchase, and post-purchase evaluation yet assigns influencing factors at a level of generality that obscures stage-specific dynamics in transitional markets. The framework proposed here integrates both: TAM's acceptance constructs anchor the pre-purchase stage, while CDJ's sequential architecture organizes the full journey, with consumer trust, interface quality, perceived risk, and logistics reliability positioned as the primary stage-specific determinants. These four constructs emerge from convergent evidence across the digital consumer behaviour literature (Handoyo, 2024; Patel et al., 2020; Lazaroiu et al., 2020; Vasic et al., 2019) and represent the factors most consistently linked to journey disruption and conversion in comparable market contexts. Applied to Lithuania, Latvia, and Estonia, this framework constitutes the first structured attempt to map digital shopper journey behaviour across the Baltic-3 region, providing a theoretically grounded foundation for subsequent empirical investigation.

The remainder of this paper proceeds as follows. Section II reviews the theoretical underpinnings of TAM and CDJ as applied to digital retail contexts. Section III develops the integrated framework, mapping the Baltic digital shopper journey across its sequential stages and situating the four determinants within each. Section IV discusses implications for Baltic retailers and researchers designing follow-up empirical studies. Section V presents conclusions and directions for future investigation.

II. THEORETICAL FRAMEWORK

1. Conceptual Foundations

Understanding how consumers navigate digital retail environments requires simultaneous attention to two distinct theoretical problems. The first is acceptance: what determines whether a consumer perceives a digital store as worth engaging with at all. The second is progression: what drives or disrupts movement through the sequential stages that follow initial engagement. These are not the same question. A consumer may accept a platform as useful and easy to use yet abandon it before completing a purchase. Conversely, a shopper may complete a transaction despite reservations about the platform's usability, pulled through by external forces the acceptance decision alone cannot explain. No single theoretical model addresses both problems with equal analytical precision. This section reviews the Technology Acceptance Model and the Consumer Decision Journey as complementary lenses, identifies the boundary of each, and constructs the case for their integration as the framework's theoretical architecture.

2. Technology Acceptance Model

Davis (1989) proposed the Technology Acceptance Model to explain how users form intentions to adopt information systems. Two constructs carry the model's explanatory load: perceived usefulness: the degree to

which a user believes a system will enhance task performance and perceived ease of use: the degree to which using the system is expected to be free of cognitive effort. Both constructs predict behavioural intention to use, which in turn drives actual system use. The model's parsimony is deliberate. It is also its primary advantage for conceptual framework development.

In digital retail, TAM's explanatory power is well-established. Varzaru et al. (2021) confirm that perceived usefulness and ease of use positively drive behavioural intention in mobile commerce. Valencia-Arias et al. (2023) demonstrate that perceived usefulness precedes attitude formation and remains the primary antecedent of e-commerce adoption intention. Nagy et al. (2021), applying TAM in a Central European context, identify perceived usefulness as more influential than ease of use on behavioural intention; a finding transferable to the Baltic market, which clusters within the same digital readiness tier as Hungary across key DESI indicators (Hunady et al., 2022).

Extended versions of TAM — TAM2, TAM3, and UTAUT — incorporate social influence, facilitating conditions, and performance expectancy as additional constructs. These extensions improve empirical predictive power in specific measurement contexts. They do not, however, improve theoretical parsimony. Ammenwerth (2019) finds that both TAM and UTAUT show context-sensitivity that limits stable generalization across settings. Shachak et al. (2019) argue that the contribution of TAM-family extensions has reached saturation precisely because construct proliferation has outpaced theoretical clarity. For a conceptual framework integrating TAM with a second theoretical lens, the original two-construct architecture is the defensible choice. Adding UTAUT's constructs without empirical calibration for the Baltic context would produce theoretical complexity without corresponding analytical gain.

TAM's ceiling, however, is real. The model explains the gateway decision whether a consumer judges a digital store worth engaging with. It does not address what happens across the sequential stages that follow. Singh et al. (2024) demonstrate that ease of use, trust, and perceived usefulness are the primary determinants of online shopping assistant acceptance but without a sequential stage architecture and outside the Baltic context. The journey interior remains theoretically unmapped by TAM alone.

3. Customer Decision Journey

Court et al. (2009) introduced the Consumer Decision Journey as a structural alternative to the traditional linear purchase funnel. Where the funnel assumes progressive elimination of options toward a single purchase moment, the CDJ maps a cyclical process: initial consideration, active evaluation, the moment of purchase, and post-purchase engagement that either loops back into loyalty or exits into competitor consideration. Santos et al. (2021) trace the CDJ's theoretical lineage across three distinct literature streams i.e. decision-making process models, customer experience research, and service encounter theory confirming both its conceptual reach and its foundational fragmentation. No single theoretical tradition fully owns it.

In digital retail, the CDJ's sequential architecture has proved productive. Roggeveen et al. (2020) operationalize the journey across pre-purchase, purchase, and post-purchase stages with associated retail technology touchpoint categories. Hoyer et al. (2020) extend this to technology-augmented retail environments, mapping AI and AR tools against each stage. Sharma et al. (2023), critically, demonstrate that digital consumer decision pathways are no longer strictly sequential. Attention can collapse directly into purchase action, bypassing evaluation stages the CDJ treats as obligatory. The journey is real. Its linearity is not.

CDJ's limitation for the present framework is specific. It maps stages with considerable precision but assigns influencing factors at a level of generality that obscures which variables operate at which stage and with what intensity. Furquim et al. (2022) confirm this blind spot: most journey research focuses on isolated stages rather than the integrated behavioural flow. Petcharat and Leelasantham (2021) integrate TAM with a purchase decision model empirically, demonstrating the analytical value of combining both lenses but without CDJ's stage architecture and outside any Baltic context. The stage-specific factor question remains open.

4. Integration Rationale: TAM and CDJ as Complementary Lenses

The analytical limitation of each framework is, precisely, the analytical contribution of the other. TAM operates at the threshold which further explains the cognitive evaluation that precedes platform engagement. CDJ operates beyond it — it maps the behavioural sequence that follows. Together, they cover the full arc of the digital shopper journey: from the moment a Baltic consumer judges whether a digital store merits engagement, through each subsequent stage at which that engagement is sustained, disrupted, or converted. The integrated framework proposed here assigns TAM's constructs to the pre-purchase entry stage and CDJ's four-stage architecture to the remainder of the journey. Four empirically grounded determinants— consumer trust, interface quality, perceived risk, and logistics reliability. It operate as stage-specific forces within this architecture, each exerting distinct pressure at different points along the journey.

Consumer trust functions as the foundational determinant across the pre-purchase and consideration stages. Harrigan et al. (2021) confirm that trust in e-commerce sites is a primary antecedent of online purchase intention, with perceived usefulness serving as its principal driver. Handoyo (2024) further establishes through meta-analytic evidence that trust formation operates consistently across high- and low-income markets — a finding directly applicable to the Baltic-3 context.

Interface quality exerts its strongest influence during the active evaluation stage, when the shopper navigates product information, compares alternatives, and assesses platform credibility. Ata et al. (2021) identify interface as a primary subdimension of digital shopping site determinants, with direct positive effects on purchase intention and satisfaction. Patel et al. (2020) confirm that interface quality of mobile shopping apps indirectly influences purchase intention through perceived enjoyment and trust pathways.

Perceived risk operates across multiple stages but concentrates at the moment of purchase. The point at which commitment is required and uncertainty peaks. Bahari (2024) confirms that perceived trust and perceived risk exert simultaneous and directionally opposing influences on purchase intention, establishing their theoretical interdependence. Handoyo (2024) confirms at meta-analytic scale that this trust-risk dynamic is amplified in markets where institutional guarantees are less established, making risk the primary moderator of the trust-intention relationship.

Logistics reliability emerges as the dominant post-purchase determinant, governing whether a completed transaction generates loyalty or exit. Vasic et al. (2019) identify delivery reliability as a primary driver of online shopping satisfaction, with subsequent research confirming that consumer perception of logistics quality directly reduces purchase risk and increases trust in cross-border e-commerce contexts (Wang et al., 2023). In the Baltic-3 region, where cross-border transactions constitute a structurally significant share of online retail volume, logistics uncertainty represents an amplified friction point relative to larger, more integrated EU markets.

5. The Baltic Context as Theoretical Test Case

The Baltic-3 region is not a residual scope choice. It is a theoretically productive test case for precisely the reasons that make Western journey frameworks insufficient here. Estonia, Latvia, and Lithuania occupy a transitional position in Europe's digital landscape above the EU median on connectivity infrastructure yet below it on digital skills penetration and e-commerce conversion rates (Cesnauskiene, 2019; Hunady et al., 2022). This asymmetry at high access, uneven utilization is the condition under which TAM's acceptance constructs and CDJ's stage-specific pressures interact most visibly. Where digital infrastructure is uniformly mature, acceptance is assumed and journey friction is minimized. Where it is uneven, both constructs operate under observable tension. Jankova et al. (2022) and Rivza et al. (2020) confirm that Baltic consumer digital behaviour remains structurally undertheorized at the journey level. Section III develops the integrated framework directly, mapping each CDJ stage against its primary TAM-informed acceptance condition and its dominant stage-specific determinant within the Baltic retail context.

III. THE INTEGRATED FRAMEWORK

1. Framework Overview

The integrated framework organizes the Baltic digital shopper journey along two intersecting axes. The vertical axis tracks the four sequential stages of the Consumer Decision Journey which is pre-purchase, active evaluation, moment of purchase, and post-purchase. The horizontal axis assigns, at each stage, the TAM construct most active at that point and the empirically grounded determinant exerting the greatest behavioural pressure. The result is not a hybrid model but a staged diagnostic architecture: each stage has a distinct theoretical anchor, a dominant influencing factor, and a Baltic-specific friction amplifier that contextualises the framework's application. Table 1 consolidates this architecture visually. The subsections that follow develop each stage in analytical detail.

2. Stage 1 — Pre-Purchase: The Acceptance Threshold

The digital shopper journey begins before a single product is viewed. At the pre-purchase stage, the Baltic consumer confronts a fundamental cognitive question: does this platform merit engagement at all? TAM's two constructs govern this moment directly. Perceived usefulness — the shopper's assessment of whether the platform will deliver value — determines initial attitude formation. Perceived ease of use shapes whether the platform's cognitive demand is judged acceptable. Siagian et al. (2022) confirm that perceived usefulness exerts simultaneous direct effects on both trust and behavioural intention, establishing it as the stage's primary activation variable. Harrigan et al. (2021) demonstrate that perceived usefulness drives trust formation, which then independently predicts purchase intention and a mediation chain that positions trust as the dominant determinant at this stage rather than a background condition. Zhang et al. (2023) reinforce this finding specifically in platform contexts, confirming that trust mediates the TAM-to-intention pathway when platform credibility is uncertain. In the Baltic-3 context, where digital skills penetration remains uneven across age and regional cohorts (Hunady et al., 2022), the acceptance threshold is structurally higher than in digitally mature markets. Baltic shoppers who lack confidence in evaluating platform credibility abandon the journey before it begins. Trust, consequently, is not merely a pre-purchase factor. It is the pre-purchase factor.

3. Stage 2 — Active Evaluation: Consideration Under Risk

Once the acceptance threshold is crossed, the Baltic shopper enters the CDJ's active evaluation stage qualitatively different behavioural terrain. The cognitive task shifts from platform assessment to product comparison: alternatives are shortlisted, prices are weighed, and platform credibility is tested against competing signals. Perceived risk emerges as the stage's dominant disruptive force. Phamthi et al. (2024), synthesizing 133 studies across a decade of e-commerce research, confirm that perceived risk is the primary negative moderator of purchase intention across the evaluation phase. Its effects are not uniform because product risk, privacy risk, and financial risk operate simultaneously, each reducing the probability that a consideration set collapses into a purchase decision. Interface quality enters here as the stage's principal risk-suppression mechanism. Petcharat and Leelasantham (2021) demonstrate that platform quality reduces perceived risk while simultaneously reinforcing trust carried forward from Stage 1 — establishing interface quality as a connecting determinant between the pre-purchase and purchase stages rather than an isolated evaluation factor. Putra et al. (2023) confirm this suppression logic: perceived service quality positively influences purchase intention through trust as mediator and perceived risk as moderator, establishing the risk-suppression pathway empirically. In the Baltic-3 context, where consumers exhibit lower average digital literacy relative to Northern EU peers (Cesnauskiene, 2019), interface complexity amplifies perceived risk disproportionately. An unclear navigation structure does not merely inconvenience the Baltic shopper. It triggers exit.

4. Stage 3 — Moment of Purchase: Conversion Under Pressure

The moment of purchase is structurally unlike any preceding stage. Comparison ends. Commitment begins. The Baltic shopper who has crossed the acceptance threshold and survived the evaluation stage now faces a single irreversible action and the cognitive architecture shifts accordingly. Trust and perceived risk, which operated sequentially across Stages 1 and 2, converge here as simultaneous opposing forces bearing directly on conversion probability. Qalati et al. (2021), in a study of 376 participants across online retail contexts, demonstrate this convergence precisely: perceived risk moderates the trust-to-purchase-intention relationship such that high trust does not neutralize high risk but instead weakens risk's suppressive effect on conversion. The implication is significant. A Baltic shopper may carry substantial trust from Stages 1 and 2 into the purchase moment and still abandon the cart if perceived risk is financial, product, or privacy and breaches an individual threshold that trust alone cannot offset. Handoyo (2024) confirms this dynamic at meta-analytic scale: perceived

risk is the primary moderating variable at the transaction stage, operating independently of the trust level accumulated across prior stages. TAM re-enters at this stage through a secondary channel. Perceived ease of use governs the checkout process and payment interface clarity, form complexity, and navigational friction at the conversion point. Siagian et al. (2022) and Sundjaja et al. (2024) confirm that ease of use directly affects behavioural intention and purchase completion through a pathway separate from trust, meaning that a technically competent shopper committed to purchasing can be deterred by checkout friction alone. In the Baltic-3 context, Al-Adwan et al. (2022) provide a critical regional parallel: consumers in moderate uncertainty-avoidance societies; an orientation the Baltic states share, clustering with Scandinavian rather than Eastern European cultural profiles (Hofstede Insights, 2023) still require explicit institutional signals at the conversion point. Return policy visibility, payment security certification, and delivery guarantee displays are not supplementary reassurances in this context. They are conversion prerequisites. Wang et al. (2023) reinforce this finding specifically for cross-border transactions, confirming that shopping risk reduction at the purchase moment is the single variable most consequential for converting browsing intent into completed orders across borders. The Baltic shopper standing at the checkout threshold is not merely deciding whether to buy. The shopper is deciding whether the platform has earned the right to demand commitment.

5. Stage 4 — Post-Purchase: Loyalty or Exit

The transaction is complete. The cognitive pressure of Stages 1 through 3 dissolves and a new evaluative process begins. At the post-purchase stage, the Baltic shopper assesses not what was chosen but what was received. Logistics reliability governs this assessment entirely. Vasic et al. (2019) confirm that timeliness, order condition, and order accuracy are the primary logistics dimensions driving customer satisfaction, which in turn predicts loyalty. Tran et al. (2026) demonstrate that logistics reliability shapes both trust and purchase decisions simultaneously, with perceived risk negatively moderating and trust positively moderating the intention-behaviour relationship. The post-purchase stage closes the CDJ loop which is a satisfactory logistics experience re-deposits trust capital into Stage 1 of the next journey, accelerating the acceptance threshold for repeat engagement, with logistics performance confirmed as the mechanism through which this trust transfer occurs (Tran et al., 2026). In the Baltic-3 context, this loop is structurally fragile. Wang et al. (2023) confirm that cross-border logistics quality directly governs consumer trust and purchase completion which is a finding with direct implications for Baltic retailers whose customer bases engage disproportionately with international platforms rather than domestic equivalents.

6. The Integrated Framework: Staged Diagnostic Architecture

Table 1 consolidates the framework's analytical architecture across all four journey stages. Each row maps a CDJ stage to its active TAM construct, its primary behavioural determinant, the shopper behaviour signal that indicates stage completion or abandonment, and the Baltic-specific friction amplifier that contextualises each stage's dynamics within the region's digital retail environment. The framework is read sequentially each stage's output becomes the next stage's input condition.

Table 1: The Integrated TAM-CDJ Framework for the Baltic Digital Shopper Journey

Journey Stage	TAM Construct Active	Primary Determinant	Shopper Behavior Signal	Baltic Friction Amplifier
Stage 1: Pre-Purchase	Perceived Usefulness (primary); Perceived Ease of Use (secondary)	Consumer Trust	Platform decision; entry session initiation	Uneven digital skills penetration raises acceptance threshold across age and regional cohorts
Stage 2: Active Evaluation	Perceived Ease of Use (risk-suppression channel)	Interface Quality → Perceived Risk reduction	Alternative comparison; shortlisting; wishlist formation	Interface complexity disproportionately amplifies perceived risk among lower-digital-literacy Baltic cohorts
Stage 3: Moment of Purchase	Perceived Usefulness + Perceived Ease of Use (checkout)	Trust + Perceived Risk (co-determinants; opposing forces)	Cart completion or abandonment	Moderate uncertainty-avoidance orientation demands explicit institutional signals at

	reactivation)			conversion point
Stage 4: Post-Purchase	Neither — CDJ-dominant stage	Logistics Reliability	Repeat engagement (loop re-entry) or platform exit	Cross-border logistics fragility structurally weakens loyalty loop relative to domestically integrated EU markets

Note: Trust carry-forward from Stage 1 operates as a residual stabilizer across Stages 2 and 3 (see III.2; III.3). Logistics reliability at Stage 4 re-deposits trust capital into Stage 1 for subsequent journey cycles (see III.5).

Three testable propositions derived from this architecture follow in Section III.7, providing the empirical agenda for subsequent quantitative investigation in the Baltic-3 context.

7. Framework Propositions

The staged diagnostic architecture generates three theoretical propositions that constitute the empirical agenda for subsequent investigation in the Baltic-3 context. Each proposition is derived from the stage-specific dynamics established in Sections III.2 through III.5 and is situated within the regional conditions confirmed across the theoretical framework.

Proposition 1: Consumer trust mediates the relationship between perceived usefulness and initial platform engagement intention at the pre-purchase stage, with the strength of this mediation inversely related to the digital skills level of the Baltic shopper cohort such that trust dependence is highest among cohorts with lowest digital proficiency.

Proposition 2: Interface quality reduces perceived risk at the active evaluation stage, and this risk-suppression effect positively moderates purchase conversion probability at the moment of purchase establishing interface quality as a cross-stage determinant whose influence extends beyond the evaluation phase into the conversion decision.

Proposition 3: Logistics reliability at the post-purchase stage is the primary predictor of journey re-entry into Stage 1, with its effect on trust re-deposition amplified in Baltic cross-border e-commerce contexts relative to domestically integrated EU markets such that logistics failure produces disproportionate loyalty exit in the Baltic-3 region compared to larger single-market digital economies.

IV.DISCUSSION

1. Theoretical Implications

The staged diagnostic architecture proposed in this study does not merely extend TAM and CDJ into a new geographic context. It exposes a systematic pattern in how both theories have been applied to digital consumer research and advances beyond it. TAM has been deployed predominantly as an adoption-threshold instrument: researchers measure perceived usefulness and ease of use, confirm their predictive validity, and conclude. Researchers treat the journey that follows entry as outside the model's remit rather than as its most consequential theoretical boundary. CDJ, applied independently, produces the inverse problem: it maps the journey with considerable stage-level precision but assigns influencing factors at a level of generality that obscures the mechanisms driving stage transitions. Santos et al. (2021) acknowledge this fragmentation across CDJ's theoretical foundations; Sharma et al. (2023) confirm that digital non-linearity has further destabilized the model's sequential assumptions. Neither paper resolves the problem. The present framework does so by treating TAM's adoption constructs and CDJ's stage architecture not as parallel theories but as complementary instruments operating at different points along a single behavioural continuum. Petcharat and Leelasantitham (2021) demonstrate the analytical value of combining TAM with purchase decision modeling empirically — yet without CDJ's stage architecture, their integration produces a two-point model where a four-point architecture is required. The staged diagnostic framework fills this structural gap with theoretically grounded and regionally situated precision. Its contribution to TAM scholarship is the specification of what happens after acceptance. Its contribution to CDJ scholarship is the assignment of stage-specific determinants with mechanistic rather than descriptive grounding.

The framework's regional situatedness in the Baltic-3 context does not constrain its theoretical reach rather demonstrates it. Transitional digital economies sharing the Baltic structural profile; high connectivity infrastructure coexisting with uneven digital skills penetration, significant cross-border e-commerce dependency, and moderate institutional trust levels further represent a coherent category of markets for which Western consumer journey frameworks have been applied without calibration. Central and Eastern European economies, including Poland, the Czech Republic, and Romania, exhibit comparable DESI component asymmetries to the Baltic-3 (Hunady et al., 2022). The staged diagnostic architecture proposed here offers these contexts a replicable analytical template: the stage sequence and theoretical lenses remain constant, while the Baltic friction amplifiers are replaced by region-specific contextual variables derived from the same structural logic. This is the framework's second-order contribution not merely a map of the Baltic digital shopper journey, but a methodology for mapping any transitional digital economy's shopper journey with stage-level precision.

2. Practitioner Implications for Baltic Retailers

The staged diagnostic architecture translates directly into operational intelligence for retailers competing in the Lithuanian, Latvian, and Estonian digital markets. Each stage generates a distinct intervention priority and not a general best practice, but a mechanism-specific action derived from the framework's analytical logic.

At Stage 1, where trust governs the acceptance threshold, Baltic retailers face a structurally elevated entry barrier relative to digitally mature EU markets. The framework's pre-purchase logic prescribes a single priority: trust signal investment before product presentation. Review aggregation, third-party certification displays, and transparent returns policy placement must precede, not accompany, product catalog exposure. For Baltic cohorts with lower digital proficiency, these signals function as prerequisite credibility infrastructure, not supplementary reassurance (Siagian et al., 2022; Hunady et al., 2022).

At Stage 2, where interface quality suppresses perceived risk during active evaluation, the retailer's operational lever is navigational simplicity calibrated to the Baltic digital literacy distribution. Filtering architecture, comparison tools, and product information density must be designed for the lower end of the regional digital skills range and not the median. Designing for the median produces interfaces that competent users find acceptable and lower-literacy users find risk-amplifying (Cesnauskiene, 2019).

At Stage 3, the conversion moment demands explicit institutional signaling under moderate uncertainty-avoidance conditions. Payment security certification, delivery timeline guarantees, and one-click return initiation must be visible at the checkout stage and not buried in policy pages. Qalati et al. (2021) confirm that trust's ability to suppress perceived risk at conversion depends on the visibility of institutional signals, not merely their existence. A guarantee that requires navigation to find does not function as a guarantee.

At Stage 4, where logistics reliability determines loyalty loop re-entry, Baltic retailers operating cross-border face the framework's most structurally demanding implication. Delivery performance is not a post-sale service metric. It is the primary input into the trust re-deposition mechanism that governs whether a completed transaction generates a repeat shopper or a permanent exit (Vasic et al., 2019; Tran et al., 2026). Investment in last-mile logistics reliability in the Baltic-3 context is, by the framework's logic, investment in Stage 1 trust capital for the next journey cycle.

3. Implications for Future Empirical Research

The three propositions advanced in Section III constitute a structured empirical agenda, not a speculative research wish list. Each proposition specifies a mechanism, a directional relationship, and a Baltic-specific moderating condition. The precise architecture that partial least squares structural equation modelling (PLS-SEM) is designed to test. PLS-SEM's capacity to simultaneously estimate mediation chains, moderation effects, and cross-stage path coefficients makes it the methodologically appropriate instrument for testing all three propositions within a single analytical model (Hair et al., 2019). Hair et al. (2019) further confirm PLS-SEM as the method of choice specifically when the research objective involves exploring theoretical extensions of established theories and when the path model includes formatively measured constructs. Both conditions directly satisfied by the present framework. A reflective-formative measurement structure would capture trust and

perceived risk as reflective constructs which is consistent with their established operationalization in e-commerce literature. While logistics reliability and interface quality are appropriately modelled as formative constructs given their multi-dimensional composition.

Table 2: Research Propositions Operationalization Framework

Proposition	Focal Constructs	Construct Type (TAM basis)	Measurement Approach	Baltic-Specific Condition Tested
P1	Predictor: Perceived usefulness Mediator: Consumer trust Outcome: Platform engagement intention	Reflective constructs; TAM PU scale (Davis, 1989); validated trust scale from e-commerce literature	PLS-SEM mediation analysis; bootstrapped indirect effects (5,000 iterations); moderated mediation with digital proficiency as boundary condition	Mediation strength expected to be significantly stronger in low-digital-proficiency cohorts than high-proficiency cohorts across Baltic-3 sample strata
P2	Predictor: Interface quality Moderator: Perceived risk Outcome: Purchase conversion probability	Formative construct (interface quality); reflective construct (perceived risk); product risk, privacy risk, and financial risk as sub-dimensions	PLS-SEM moderation with interaction term; HTMT criterion for discriminant validity; cross-stage path analysis from evaluation to conversion	Interface quality's risk-suppression effect expected to be stronger in Baltic cohorts with lower digital literacy; cross-stage path significant across all three country sub-samples
P3	Predictor: Logistics reliability Mediator: Trust re-deposition Outcome: Journey re-entry intention	Formative construct (logistics reliability); timeliness, order accuracy, and return service as constituent dimensions; reflective trust re-purchase scale	PLS-SEM path analysis; multi-group analysis comparing cross-border vs. domestic purchase samples; ANOVA for Baltic country comparison of loyalty loop fragility	Logistics failure expected to produce disproportionately larger loyalty exit in cross-border subsample; trust re-deposition path weaker in Baltic-3 than in large single-market EU comparators

Note: Construct measurement types follow Hair et al. (2019) guidelines for reflective-formative specification in PLS-SEM. All scale items should be drawn from validated instruments in the e-commerce and TAM literature prior to data collection.

Sampling logic for the Baltic-3 context demands deliberate stratification. A cross-national sample drawn equally from Lithuania, Latvia, and Estonia — minimum 150 respondents per country, well above Hair et al.'s (2019) ten-times rule minimum threshold for this model's structural complexity would enable both within-country proposition testing and cross-country comparison of Baltic friction amplifier intensity. Stratification by digital proficiency level is non-negotiable: Proposition 1's mediation strength is explicitly conditioned on cohort digital literacy, meaning a non-stratified sample would average out precisely the variance the proposition predicts. Age-cohort and urban-rural stratification variables follow directly from the digital skills gap documented by Cesnauskiene (2019) and Hunady et al. (2022). The result would be the first empirically validated, stage-specific model of digital shopper journey behaviour in the Baltic-3 region and the natural methodological successor to the conceptual architecture this study establishes.

V.CONCLUSIONS

This study establishes a staged diagnostic architecture for the Baltic digital shopper journey. The first integrated conceptual framework, to the authors' knowledge, to combine TAM's acceptance constructs with CDJ's sequential stage logic and situate both within the specific digital retail conditions of Lithuania, Latvia, and Estonia. The framework advances beyond prior integration attempts by assigning stage-specific determinants

which are consumer trust, interface quality, perceived risk, and logistics reliability with mechanistic precision rather than descriptive generality, producing a theoretically grounded and regionally situated instrument for understanding how Baltic consumers navigate, convert within, and re-enter digital retail environments.

Three gaps motivated this study. Each is now addressed. The absence of stage-specific behavioural research on Baltic digital shoppers is resolved by the framework's four-stage sequential architecture, which maps the journey interior that prior Baltic e-commerce literature left theoretically unmapped. The lack of an integrated TAM-CDJ conceptual instrument is resolved by the staged diagnostic architecture itself. A structural combination that neither theory's independent literature had produced. The unexamined transferability of Western consumer journey models to transitional digital economies is resolved by the Baltic friction amplifier analysis embedded at every stage, which demonstrates where and why Western frameworks require regional calibration rather than direct application.

Three methodological boundaries define this study's scope. First, as a conceptual paper, it establishes theoretical relationships between constructs without confirming causal directionality through primary data basically a limitation that the PLS-SEM agenda proposed in Section IV is designed to resolve. Second, the framework's four determinants represent the factors most consistently supported by convergent literature evidence across multiple independent studies; they do not constitute an exhaustive inventory of every variable influencing Baltic digital shopper behaviour. Third, the framework's regional calibration to the Baltic-3 context, while theoretically productive, limits direct transferability to other transitional digital economies without adaptation which is a constraint that simultaneously defines the framework's precision and its geographic boundary.

Digital retail scholarship has accumulated extensive evidence on why consumers adopt online platforms and how they progress through purchase journeys. What it has not produced, until this framework, is a theoretically integrated and regionally situated instrument that connects both questions within a single sequential architecture and assigns each stage of that architecture a determinant grounded in evidence specific enough to generate falsifiable predictions. The staged diagnostic architecture does precisely that. For the Baltic-3 region, it does so for the first time to the authors' knowledge.

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