

Transaction Assurance and Digital Promotion in Online Retail: Implications for Small Enterprise Development

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Abstract: *Digital promotion can extend an enterprise's reach, but participation in online markets also depends on customer confidence in payment, seller performance and fulfilment. This article examines how promotional exposure and perceived transaction security relate to consumer evaluations, and develops implications for small enterprise support. A cross-sectional survey yielded 53 responses between 18 July and 7 August 2026; purchase and consent screening retained 46 recent online shoppers. The existing analysis used partial least squares structural equation modelling with 5,000 bootstrap resamples, supplemented by rank correlations, channel comparisons and robust regressions. Promotional exposure was associated with attitude towards online shopping ($\beta = 0.652$), while perceived security was associated with store trust ($\beta = 0.588$). Attitude and satisfaction were positively associated with purchase intention; trust's adjusted direct coefficient was inconclusive. Social media and search had higher mean exposure scores than email. A self-reported shopping index was associated with intention, but its low reliability and mixed content prevent interpretation as verified conversion. The proposed assurance-to-action framework connects customer discovery, transaction assurance and service experience to enterprise diagnostics. Practical applications include checkout support, clear transaction information, reliable fulfilment and monitoring of completed orders and margins. The small convenience sample, construct overlap and unresolved indirect-effect reporting make the findings provisional. Enterprise size, livelihood outcomes and financial inclusion were not measured; these remain priorities for field evaluation.*

Keywords: Small Enterprise Development; Online Retail; Transaction Security; Digital Promotion; Customer Trust; Market Participation

Introduction

For an enterprise entering an online market, being visible is only the beginning of the commercial relationship. A prospective customer must understand the offer, accept the payment arrangements and expect the seller to deliver what has been promised. Promotion, payment and fulfilment therefore belong to the same enterprise-development problem: how to turn access to a market into a dependable trading relationship. This problem is particularly relevant to a small business that has limited time, working capital and capacity to absorb unsuccessful advertising expenditure or prolonged disputes.

Digital tools can widen the audience for a seller whose physical market is narrow. They can also expose the seller to customers who have little prior knowledge of its products or reputation. In that setting, the customer's willingness to transact depends partly on the information available about the seller and the institutions supporting the exchange. Research on online shopping links trust to technology acceptance, perceived risk and institutional safeguards (Gefen et al., 2003; Kim et al., 2008; Pavlou, 2003). Marketing research explains how social communication, search visibility and electronic recommendations shape attitudes and intentions (Bilgin, 2018; Erkan & Evans, 2016). Bringing these perspectives together makes it possible to ask where enterprise support should intervene along the customer journey.

The development relevance extends beyond the adoption of a website or digital payment instrument. The OECD (2021) identifies skills, financing and organisational constraints in small and medium-sized enterprises' digital transformation, alongside their reliance on external platforms and service providers. The World Bank (2016) similarly argues that digital adoption needs complementary skills, institutions and competitive conditions to deliver broader development benefits. These accounts provide a reason to examine the quality of online participation, including the transaction processes through which access may become useful commercial activity.

Consider an owner who attracts enquiries through social media but receives repeated questions about payment safety, delivery charges or returns. Increasing promotional reach may bring more enquiries without resolving the uncertainty already expressed by customers. Conversely, a dependable transaction process will have limited commercial reach if suitable customers cannot discover the offer. This is an illustrative enterprise problem, not an observed case from the present survey. It shows why an adviser needs to assess both customer discovery and transaction assurance before recommending expenditure on a particular channel.

This article reports an exploratory consumer survey and interprets its findings for enterprise-development practice. It asks three questions. First, how are promotional exposure and perceived transaction security associated with attitude and trust? Second, how do trust, attitude and satisfaction relate to purchase intention and a self-reported shopping index? Third, what cautious, testable implications follow for organisations supporting small enterprises' participation in online markets? The first two questions concern measured consumer perceptions. The third translates those perceptions into proposed applications that require evaluation with enterprises and transaction records.

The study contributes a diagnostic framework linking promotional visibility and transaction assurance with customer evaluation. It also makes a methodological distinction that matters for programme assessment: purchase intention and a mixed survey index cannot establish sales conversion, enterprise profitability or livelihood improvement. The sample comprises 46 eligible shoppers, predominantly educated men, and does not identify the size or location of the sellers they used. Its contribution is consequently a set of provisional associations and an enterprise-support agenda, rather than an impact evaluation. This bounded approach connects research with practice while keeping the practical recommendations proportionate to the evidence.

Literature review and analytical framework

2.1. Enterprise capability and participation in digital markets

Enterprise development concerns the capabilities and market conditions that enable businesses to sustain useful economic activity. In online retail, those capabilities include presenting an intelligible offer, managing orders, using payment services, communicating delivery information and resolving complaints. A business may adopt the tools for each task without integrating them into a reliable customer experience. Digital transformation therefore involves changes in business processes as well as technology adoption (Verhoef et al., 2021).

Platforms can supply functions that a small enterprise would struggle to build independently. The OECD (2021) describes how smaller firms use external solutions to compensate for internal capability constraints, including in digital security. This reduces some entry costs but leaves an important coordination task: identifying what the seller controls, what the platform controls and how the customer obtains help when something goes wrong. The relevant enterprise capability is partly the ability to organise a transaction across these providers.

A development programme can use this perspective to distinguish registration from effective participation. An account opened, a listing published or a payment method activated documents an adoption event. It does not show that orders are profitable, disputes are resolved or customers return. The World Bank's (2016) discussion of complementary skills and institutions supports this broader distinction. In the present article, applying that distinction to online retail is an analytical proposal: the survey itself does not measure business capability, programme participation or livelihood outcomes.

2.2. Perceived transaction security and trust

Online exchange creates uncertainty because buyers may commit money and personal information before they can fully inspect the product or assess the seller. Trust concerns the expectation that the seller will behave competently and reliably despite this vulnerability. McKnight et al. (2002) distinguish beliefs about competence, benevolence and integrity, while Morgan and Hunt (1994) connect trust with durable exchange relationships. Such beliefs may be supported by prior experience, visible transaction safeguards and the rules of the marketplace.

Pavlou (2003) incorporates trust and perceived risk into an account of electronic-commerce acceptance. Gefen et al. (2003) also integrate trust with technology acceptance, and Kim et al. (2008) examine trust and risk in consumers' decisions to transact. These studies justify separating the customer's evaluation of safety from general enthusiasm for online shopping. A customer can find online purchasing convenient while remaining uncertain about the handling of payment details or the reliability of an unfamiliar store.

The present security measure concerns perceptions of personal-information protection, website safeguards, payment-method safety and explanations of financial-data use. It does not audit technical security or document fraud incidence. This distinction is essential for enterprise practice. Improving the clarity of an assurance message may change perceptions, but it cannot establish that the underlying system is secure. A responsible application requires dependable technical arrangements and truthful communication about them.

Institution-based trust can support transactions with unfamiliar sellers (Pavlou & Gefen, 2004). Nevertheless, the seller's own conduct remains relevant: accurate descriptions, clear delivery promises and accessible support provide information about how it will perform. The framework therefore expects perceived security to be positively associated with trust while recognising that reverse association is possible. A customer who already trusts a store may also judge its security more favourably.

2.3. Digital promotion and consumer attitude

Digital promotion can expose consumers to product information, demonstrations, recommendations and reminders. Its channels serve different purposes. Search connects a stated information need with available offers. Social media combines promotional content with interpersonal communication and public reactions. Influencer communication depends partly on source credibility, while email can maintain contact with customers who have agreed to receive messages. Studies of social media and electronic word of mouth show associations with brand evaluation and purchase intention (Bilgin, 2018; Erkan & Evans, 2016).

Exposure is not equivalent to effectiveness. A consumer may see many advertisements because of platform use or existing purchase interests. A channel's high exposure score does not show that it generates profitable orders. Ellis-Chadwick and Doherty (2012) examine the execution of email marketing, while Hennig-Thurau et al. (2004) explain motivations for consumer-generated online communication. Together, these perspectives caution against treating all contacts as equivalent or assuming that a channel's prominence establishes its value for every seller.

The stimulus–organism–response framework offers a way to organise these relationships (Mehrabian & Russell, 1974). Promotional contacts and perceived transaction safeguards are stimuli; attitude, trust and satisfaction are consumer evaluations; intention and shopping reports are responses. The present model uses this ordering to structure exploratory associations. The cross-sectional design cannot show that exposure preceded attitude or that security perceptions were formed before trust.

2.4. Satisfaction, purchase intention and shopping reports

Attitude concerns an overall evaluation of online shopping, whereas satisfaction concerns the appraisal of an experienced purchase. Service research links satisfaction and perceived value to behavioural intentions (Cronin et al., 2000). A customer-journey perspective also emphasises how multiple encounters accumulate into an evaluation of the business (Lemon & Verhoef, 2016). These distinctions make it reasonable to examine both general attitudes and satisfaction in relation to future intention.

Intention is a stated willingness to act, and circumstances can prevent its realisation (Ajzen, 1991). The present intention measure includes continued buying, choosing the same store, recommending it and buying again. This is broader than a single intention to complete a particular order. Its overlap with loyalty and advocacy needs to be recognised when interpreting the model.

The behavioural block is also heterogeneous. It combines increased spending, frequent purchase completion and rarely leaving items in a cart. These items describe different dimensions of shopping and do not share a verified transaction denominator or observation period. The revised article therefore calls this block a self-reported shopping index. It cannot be used to calculate a conversion rate or a numerical intention–action gap. A smaller R^2 for this index than for intention means only that the specified model explains less variation in one survey outcome than in the other.

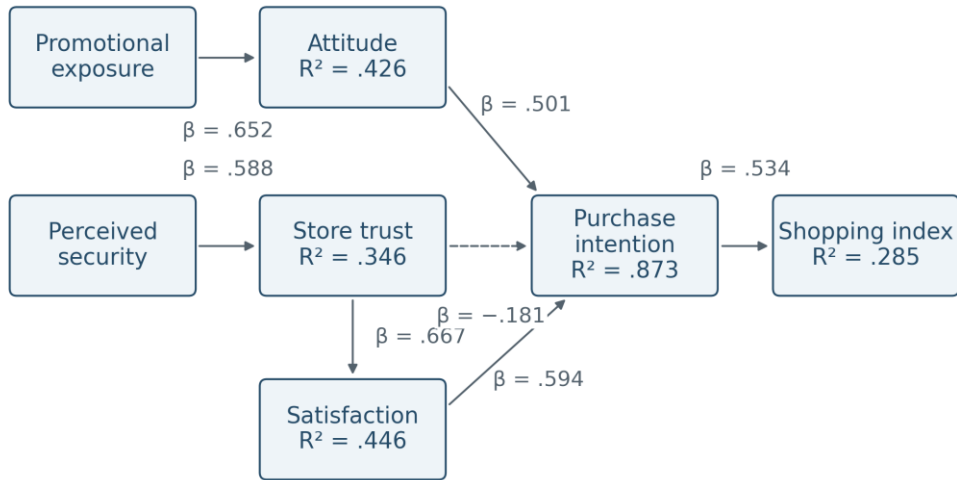
2.5. The proposed assurance-to-action framework

The framework distinguishes a visibility route, linking promotional exposure with attitude, from an assurance route, linking perceived security with trust and satisfaction. Attitude, trust and satisfaction are modelled in relation to purchase intention, which is then related to the shopping index. Figure 1 presents the reported paths and their exploratory estimates. Digital literacy enters supplementary regression models as a contextual factor; it is not included in the principal structural model.

The framework's practical contribution is a set of questions about where a trading relationship may require support. Can the customer discover and understand the offer? Does the transaction appear dependable? Does the service experience meet expectations? Are actual orders and returns recorded? These questions concern different tasks and can guide an enterprise diagnostic. Their usefulness does not depend on treating every estimated path as causal or every stage as a statistically distinct construct.

The exploratory hypotheses are: H1, promotional exposure is positively associated with attitude; H2, perceived security is positively associated with trust; H3, trust is positively associated with satisfaction; H4, attitude is positively associated with purchase intention; H5, trust has a positive direct association with intention after accounting for attitude and satisfaction; H6, satisfaction is positively associated with intention; and H7, intention is positively associated with the shopping index. H8a and H8b concern positive indirect associations through the visibility and assurance routes respectively. Their numerical reporting requires the reconciliation discussed in Section 4.4.

Figure 1. Proposed framework and reported exploratory path estimates
Exploratory associations in the reported model



Note. Arrows express the hypothesised ordering of cross-sectional associations. The dashed trust–intention path has an interval spanning zero. The shopping index is not a verified conversion measure. Digital literacy appears only in supplementary regressions. Source: direct-path and R^2 tables in the supplied analysis record.

Methodology

3.1. Design, eligibility and sample

The study record describes a quantitative, cross-sectional survey with responses collected between 18 July and 7 August 2026. The export contained 53 records. Eligibility required an online purchase from a website or application during the previous three months and voluntary consent to anonymous research use. Five respondents did not meet the recent-purchase screen; two additional respondents did not consent. Excluding these seven records left 46 observations. The record states that all 38 substantive Likert items were available for these eligible respondents.

The recruitment channel and respondents' locations are not documented in the available record. The sample is consequently treated as a convenience pilot, and no country, state, city or sampling population is assigned to it. Missing demographic entries are shown where applicable. A free-text shopping-frequency field contained incompatible response formats and was excluded from inferential analysis. The available record does not support reconstructing that variable through assumptions about words, ranges or implausible entries.

Table 1 describes the sample. Forty-three respondents were men and three were women. All reported a bachelor's or master's degree, and 35 reported more than six years of online-shopping experience. Thirty-five mainly used a mobile application. These characteristics describe a relatively experienced group and substantially restrict relevance to first-time users and digitally excluded populations. The original record reports a median age of 40 years, but

individual age entries need verification; they are not used in the model or relied on in the interpretation.

Table 1. Profile of the eligible sample (n = 46)

Characteristic	Category	n	%
Gender	Male	43	93.5
	Female	3	6.5
Education	Bachelor's degree	24	52.2
	Master's degree	22	47.8
Online-shopping experience	More than 6 years	35	76.1
	4-6 years	5	10.9
	1-3 years	3	6.5
	Less than 1 year	1	2.2
	Not reported	2	4.3
Primary device	Mobile application	35	76.1
	Desktop or laptop	8	17.4
	Mobile browser	2	4.3
	Not reported	1	2.2
Main product type	Mixed	29	63.0
	Everyday items	14	30.4
	Fun or treat items	2	4.3
	Not reported	1	2.2

Note. Percentages use all 46 eligible respondents and may not sum to 100 because of rounding. The recruitment channel, respondent geography and seller size are not documented. Source: supplied manuscript.

3.2. Measurement and construct definitions

Responses used a seven-point agreement scale from 1, strongly disagree, to 7, strongly agree. Promotional exposure comprised 12 items grouped into social media advertising, email, search visibility and influencer marketing, with three items per channel. Security, trust, attitude, intention and digital literacy each had four items. Satisfaction and the shopping index each had three items. Arithmetic item means retained the seven-point metric for descriptive analyses.

Security concerns perceived transaction safeguards; trust concerns beliefs about the online store. Attitude captures usefulness, affective evaluation, convenience and enjoyment. Satisfaction concerns overall appraisal, fulfilment of product and delivery expectations, and the perceived correctness of the purchase choice. Digital literacy concerns independent use of applications, problem-solving, use of several tools and learning new features. The original survey instrument is required to verify exact wording and the referent used across these blocks. The original analysis treated the principal blocks as reflective measures. This is a working specification that needs further assessment. Exposure to different channels may represent distinct activities rather than interchangeable manifestations of one latent trait. Likewise, spending change, completion frequency and cart retention may be better analysed separately.

Their substantive heterogeneity is reported openly rather than resolved by deleting weak items to optimise the pilot results.

3.3. Analytical strategy and verification boundary

The existing analysis record reports partial least squares structural equation modelling using reflective Mode A measurement, standardised indicators and path weighting. Internal consistency was assessed using Cronbach's α and composite reliability; average variance extracted (AVE) assessed convergent validity. Discriminant validity was examined using the heterotrait–monotrait ratio (HTMT), following Henseler et al. (2015). Loadings and reliability are reported alongside structural paths because a coefficient cannot compensate for an unclear or poorly measured construct.

The structural record reports standardised coefficients, R^2 , variance-inflation factors (VIF), effect sizes and 5,000 case-level bootstrap resamples with percentile intervals. PLS-SEM provides an exploratory means of estimating the specified relationships; it does not supply missing information about recruitment, eliminate confounding or establish that this sample is adequately powered (Hair et al., 2022). The confidence intervals describe uncertainty under the fitted model, and they do not correct an unrepresentative sample or an unsuitable measurement specification.

Supplementary analyses comprise Spearman correlations, a Friedman comparison of the four within-person channel scores, Holm-adjusted Wilcoxon comparisons and standardised ordinary least squares regressions with HC3 standard errors. The regressions include digital literacy and test whether associations persist under a different specification. Differences between the regression and structural estimates are retained because they reveal sensitivity to covariate adjustment and shared variance.

The response-level export, executable estimation scripts and complete bootstrap output were not supplied with the manuscript for this revision. Reported estimates have therefore been preserved from the existing analysis tables; no new participant-level model was estimated. Narrative discrepancies have been reconciled with those tables where possible. Two indirect-effect summaries do not match products of the reported component paths and require confirmation of the estimator and summary statistic. Appendix A retains the numbers with this qualification, and Appendix B identifies the remaining author checks.

The original record also describes seven-fold validation applied to latent scores obtained from the full dataset. These fixed-score results are retained for transparency but are not presented as full out-of-sample PLSpredict validation. Predictive assessment should separate model fitting from test-data prediction and compare prediction errors with suitable benchmarks (Shmueli et al., 2019). The available record does not establish that procedure.

3.4. Consent and research governance

The survey included voluntary consent to anonymous research use, and records without consent were excluded. This supports the reported participation screen but does not establish institutional ethics approval or exemption. The available manuscript does not identify a

committee, approval reference or documented exemption. The author must supply the applicable institutional determination and data-handling arrangements before journal submission. Approval and consent details from another study should not be transferred to this survey.

Results

4.1. Descriptive patterns and promotional channels

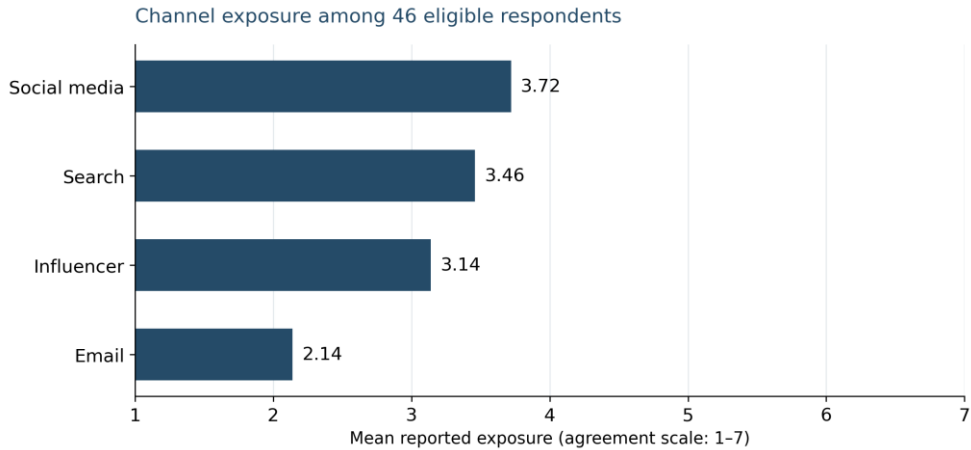
Table 2 reports descriptive scores and internal consistency. Attitude, satisfaction, intention and literacy had means above the midpoint of 4. Security averaged 3.39 and trust 3.73. These figures describe respondents' evaluations and should not be interpreted as an audit of store security or seller performance. They also do not quantify the proportion of respondents who were financially or digitally excluded.

Social media had the highest mean exposure score, 3.72, followed by search at 3.46, influencer marketing at 3.14 and email at 2.14. The reported Friedman statistic was $\chi^2(3) = 35.63$, $p < .001$. Holm-adjusted comparisons indicated higher social-media exposure than email and influencer exposure, and higher search and influencer exposure than email. Social media and search were not statistically distinguishable in this pilot. Figure 2 displays the channel means without treating their ordering as a ranking of advertising returns.

Table 2. Descriptive scores and internal consistency

Construct	Items	Mean	SD	Alpha
Social media advertising	3	3.72	1.66	0.789
Email marketing	3	2.14	1.32	0.739
Search visibility	3	3.46	1.62	0.793
Influencer marketing	3	3.14	1.96	0.948
Digital marketing exposure	12	3.11	1.25	0.879
Perceived transaction security	4	3.39	1.72	0.925
Trust in the online store	4	3.73	1.45	0.841
Attitude to online shopping	4	4.68	1.68	0.948
Satisfaction	3	4.70	1.69	0.954
Purchase intention	4	4.71	1.67	0.968
Self-reported shopping index	3	3.75	1.25	0.514
Digital literacy	4	4.73	1.84	0.942

Note. All scores use the seven-point agreement metric. α = Cronbach's alpha; SD = standard deviation. Channel subscales are part of the 12-item exposure block. Source: supplied manuscript; no re-estimation.

Figure 2. Mean exposure scores for four promotional channels

Note. Means are reproduced from the supplied descriptive table. The axis retains the response scale of 1–7. Exposure scores do not measure effectiveness, conversion or return on advertising expenditure.

4.2. Reliability and construct distinction

Table 3 reports the measurement-model diagnostics. Security, trust, attitude, satisfaction and intention had AVE values above .50. Promotional exposure had AVE = .436, despite composite reliability of .899. Its common reflective variance is therefore limited, reinforcing the need to examine the four channels separately or reassess their aggregation in a future instrument.

The shopping index had $\alpha = .514$ and composite reliability of .750. Its loadings ranged from .305 to .906 in the source table; this range replaces the inconsistent, more favourable range stated in the original narrative. The low α and unequal loadings indicate that the index does not support a strong claim about one homogeneous form of behaviour. Very high reliability for satisfaction and intention also warrants scrutiny for redundant item content; high internal consistency alone does not establish a distinct construct.

HTMT was .912 for attitude–satisfaction, .918 for attitude–intention and .943 for satisfaction–intention. All exceed the commonly used .90 reference, indicating unresolved discriminant-validity concerns (Henseler et al., 2015). Their theoretical distinctions do not remove this empirical overlap. Structural coefficients separating these evaluations, especially their unique contributions to intention, are consequently provisional. Appendix A supplies the selected HTMT values and other diagnostics.

Table 3. Reported PLS-SEM measurement diagnostics

Construct	Items	Loadings	α	CR	AVE
Digital marketing exposure	12	0.429-0.834	0.879	0.899	0.436
Transaction security	4	0.821-0.953	0.925	0.948	0.820
Store trust	4	0.669-0.922	0.841	0.895	0.684

Construct	Items	Loadings	α	CR	AVE
Attitude	4	0.887-0.965	0.948	0.963	0.867
Satisfaction	3	0.952-0.968	0.954	0.970	0.916
Purchase intention	4	0.929-0.971	0.968	0.977	0.916
Shopping index	3	0.305-0.906	0.514	0.750	0.536

Note. CR = composite reliability; AVE = average variance extracted. Exposure AVE is below .50. The shopping-index loading range follows the original table rather than the inconsistent narrative. High HTMT among attitude, satisfaction and intention limits construct distinction (Appendix A).

4.3. Direct associations and specification sensitivity

Table 4 and Figure 3 present the reported direct paths. Promotional exposure was positively associated with attitude ($\beta = .652$, 95% CI [.529, .805]), and perceived security with trust ($\beta = .588$, 95% CI [.406, .761]). Trust was positively associated with satisfaction ($\beta = .667$). These results are consistent with H1–H3 within the specified pilot model. They do not identify the direction of influence between contemporaneously reported perceptions.

Attitude and satisfaction had positive conditional associations with intention, $\beta = .501$ and .594 respectively. Trust's direct coefficient was $-.181$, with an interval spanning zero $[-.350, .061]$. H5 therefore received no support as a positive, unique direct association. This coefficient is compatible with instability in partitioning shared variation among the evaluations. It cannot show that reducing trust would increase customers' willingness to buy.

The intention equation had $R^2 = .873$, with VIF = 5.382 for attitude, 4.123 for satisfaction and 2.355 for trust. The high explanatory value must be read alongside construct overlap and common measurement conditions. Intention was associated with the shopping index ($\beta = .534$), whose R^2 was .285. These are two different outcome equations; their difference cannot quantify abandoned purchases, lost revenue or a conversion gap.

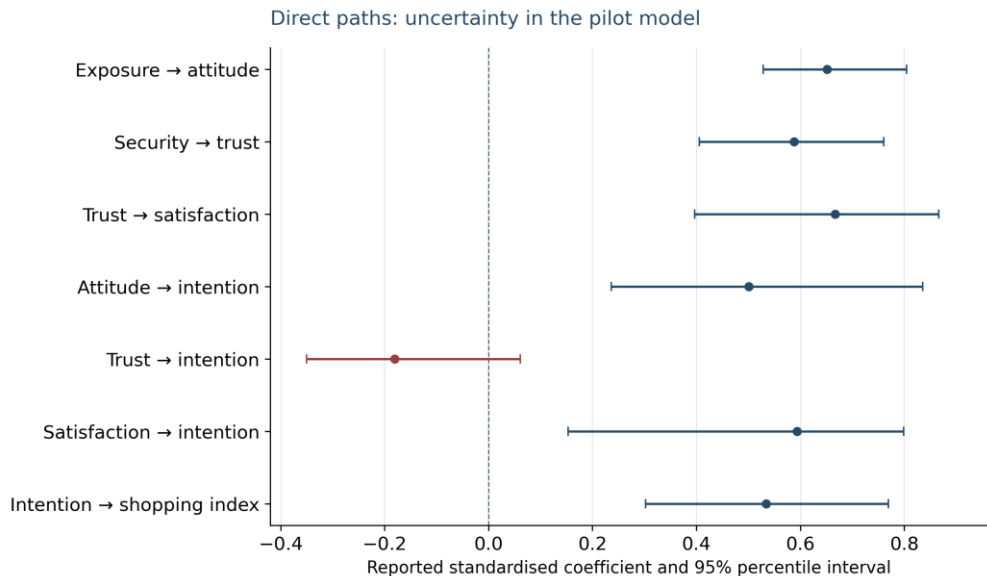
Spearman correlations were positive for security–trust ($\rho = .528$), exposure–attitude ($\rho = .643$), trust–intention ($\rho = .573$) and intention–shopping index ($\rho = .464$). The particularly high attitude–intention (.871) and satisfaction–intention (.887) correlations are consistent with the HTMT concerns. Selected correlations appear in Appendix A.

The HC3 regression retained a positive security–trust association after adjusting for exposure and literacy ($\beta = .411$, 95% CI [.076, .747], $p = .018$). Exposure's adjusted association with attitude was less precise ($\beta = .308$, $p = .074$), while literacy was positive ($\beta = .438$, $p = .010$). The intention regression retained attitude ($\beta = .513$, $p = .024$), but satisfaction was borderline ($p = .052$). None of the individual shopping-index coefficients, including the security-by-exposure interaction ($p = .368$), reached .05. The robustness results therefore support cautious attention to security–trust while qualifying broader claims about promotion, mediation and shopping outcomes.

Table 4. Reported direct structural associations

H	Path	β	95% CI	p	Pilot result
H1	DME $\rightarrow$ ATT	0.652	[0.529, 0.805]	<0.001	Interval > 0
H2	SEC $\rightarrow$ TRU	0.588	[0.406, 0.761]	<0.001	Interval > 0
H3	TRU $\rightarrow$ SAT	0.667	[0.397, 0.867]	<0.001	Interval > 0
H4	ATT $\rightarrow$ PI	0.501	[0.236, 0.836]	0.002	Interval > 0
H5	TRU $\rightarrow$ PI	-0.181	[-0.350, 0.061]	0.081	Inconclusive
H6	SAT $\rightarrow$ PI	0.594	[0.153, 0.799]	0.001	Interval > 0
H7	PI $\rightarrow$ BEH	0.534	[0.302, 0.770]	<0.001	Interval > 0

Note. DME = exposure; SEC = security; TRU = trust; ATT = attitude; SAT = satisfaction; PI = intention; BEH = shopping index. Results reproduce the original table and are conditional on the exploratory model. An interval above zero does not resolve poor discriminant validity or establish causality.

Figure 3. Reported direct paths and bootstrap uncertainty

Note. Points and intervals reproduce the reported PLS-SEM table (5,000 resamples). Measurement and discriminant-validity limitations apply to every path. The trust–intention interval spans zero; no causal interpretation is implied.

4.4. Indirect-effect reporting

The original indirect-effect table reports .369 for exposure $\rightarrow$ attitude $\rightarrow$ intention and .210 for security $\rightarrow$ trust $\rightarrow$ satisfaction $\rightarrow$ intention, with positive percentile intervals. Multiplication of the reported direct coefficients instead gives approximately .327 and .233 respectively. Rounding the paths to three decimals does not explain these differences. A bootstrap-average product can differ from the product of the original-sample estimates, but the available table does not identify that distinction or supply the underlying output.

Appendix A therefore retains the source summaries separately from the arithmetic products. The estimates and their intervals need to be reconciled before H8a and H8b can be presented as verified mediation results. Cross-sectional indirect associations would still not establish a temporal mechanism even after reconciliation (Preacher & Hayes, 2008). The assurance route remains a useful research proposition, supported here by positive component associations, rather than a demonstrated causal sequence.

Discussion

5.1. Connecting customer evaluations with enterprise support

The clearest empirical distinction is between perceived security's association with trust and promotional exposure's association with attitude. They describe different aspects of the consumer's relationship with online retail. General enthusiasm for online shopping can coexist with reservations about a particular transaction. For an enterprise adviser, this suggests asking separately about the intelligibility of an offer and the dependability of the transaction arrangements. A single digital-readiness score may conceal those different concerns.

The positive adjusted security–trust coefficient is consistent with accounts of trust and risk in online exchange (Gefen et al., 2003; Kim et al., 2008; Pavlou, 2003). Its persistence under adjustment makes it a useful candidate relationship for a larger study. Nevertheless, the pilot does not establish which safeguards matter most, whether perceptions reflect actual protection, or whether the relationship differs across sellers. Those questions require disaggregated measures and information about the transaction provider.

The weaker adjusted exposure–attitude relationship indicates that part of their bivariate association is shared with literacy and other perceptions. Experienced consumers may both encounter more promotion and evaluate online shopping more favourably. This possibility matters for development practice because a communication strategy suited to experienced shoppers may fail to address the needs of customers who require assistance. The survey cannot estimate that difference: its participants are predominantly highly educated and experienced users.

5.2. Service experience and the limits of the model

Trust and satisfaction were positively associated, and satisfaction was strongly related to intention in the structural model. This is compatible with a customer-journey perspective that includes product information, payment, delivery and after-sales contact (Lemon & Verhoef, 2016). An enterprise-support programme can reasonably investigate those connected tasks rather than assess advertising activity alone. The present findings do not prove that a particular fulfilment improvement will cause more repeat orders.

The empirical overlap among attitude, satisfaction and intention also changes the strength of the theoretical claim. Their separation is defensible conceptually, but the pilot does not adequately distinguish them statistically. A negative partial trust coefficient alongside a positive bivariate relationship illustrates the difficulty of assigning unique effects to closely

related evaluations. The model should therefore guide measurement refinement, not establish a definitive hierarchy of enterprise investment priorities.

The assurance-to-action framework is best understood as a diagnostic contribution. It connects areas commonly treated separately and identifies evidence needed at each stage. Discovery requires information on qualified enquiries; assurance requires evidence about payment arrangements and problem resolution; service experience requires delivery and complaint records; commercial action requires verified orders and margins. The survey supplies perceptions relevant to some of these stages. The additional enterprise indicators are proposed extensions, not measures already collected.

5.3. Development relevance and evidence boundaries

The development argument concerns the conditions under which small sellers might participate more reliably in digital markets. It is plausible that wasteful promotion, payment disruption and unresolved returns would matter to a resource-constrained business. The present consumer data do not measure these costs, identify affected enterprises or estimate financial consequences. The article's practical recommendations consequently take the form of activities to diagnose and test, with outcome indicators that can establish whether they work.

Microfinance organisations and other enterprise-support institutions could be delivery partners where their mandates include business services. The study does not examine their clients, lending, repayment or programme effectiveness. Nor does it show that online retail participation alleviates poverty or empowers women. Connecting this work to inclusive finance is therefore a proposed institutional application that should be evaluated with the relevant populations, alongside risks and distributional outcomes.

Implications for enterprise development practice and policy

6.1. Diagnose transaction readiness before expanding promotion

An enterprise diagnostic can begin with a recent order and reconstruct how the customer found the seller, what information was available, how payment was confirmed, whether delivery met the promise and how any complaint was resolved. This exercise can reveal a practical problem within the owner's control or identify a dependency on a platform, payment provider or delivery service. It is a proposed diagnostic procedure, not an intervention evaluated by the survey.

An adviser can then help the owner test the mobile purchase path, publish accurate charges and delivery terms, explain the use of customer information and provide a clear route for failed payments and refunds. The task is to make dependable arrangements understandable. An assurance claim should correspond to an actual protection or service commitment that the seller can honour. Table 5 links such actions with indicators that can be collected from an order log or basic business records.

6.2. Link promotional channels with commercial learning

The observed prominence of social media and search identifies channels worth examining in this respondent group. It does not justify a universal spending allocation. A small seller can test

a limited campaign or improve a product listing, then record enquiries, completed orders, refunds and attributable costs. The comparison should account for product mix, seasonality and changes in prices or stock. These factors can produce apparent campaign effects even when communication has not changed customer behaviour.

Channel learning should also include retention. Consent-based email or messaging may support service updates and relevant repeat-purchase offers even when exposure scores are low. Influencer communication can be assessed through audience fit, honest disclosure and traceable enquiries. The useful decision criterion is the contribution of orders after advertising, platform fees, delivery and returns, not reach alone. No return on investment for any channel is estimated in the present study.

6.3. Coordinate enterprise support with market-system services

Some transaction problems depend on services beyond the seller. Enterprise organisations can help owners identify payment and delivery responsibilities, understand charges, document disputes and use existing escalation routes. Business associations or development agencies could organise shared technical support where firms lack individual capacity. This is consistent with the OECD's (2021) emphasis on skills, technology assistance and digital-security support for smaller businesses.

Financial-service providers could connect payment onboarding with practical transaction support and transparent settlement information. Where an enterprise uses external finance to fund inventory or promotion, it also needs to understand when sales receipts become available and how refunds affect the cash position. These are proposed support topics, not evidence that lending or a specific payment service improves livelihoods. Their value should be tested using business records and customer experiences.

Market-system interventions should allocate responsibility clearly. A seller cannot independently correct every platform interface or payment-reversal process. Providers need to monitor failures they control, and advisers need a route for escalating recurring problems across firms. This coordination perspective helps avoid attributing every unsuccessful transaction to the owner's skills. Evaluation should ask which institution changed which process and whether the change improved customer and enterprise outcomes.

6.4. Evaluate inclusion and livelihood outcomes directly

The sample's imbalance makes inclusion an agenda for further work. Programmes applying the framework should recruit women entrepreneurs, rural firms, customers with limited literacy and first-time digital users deliberately, rather than assume that the pilot describes them. They can test plain-language explanations, assisted demonstrations and appropriate communication formats with those groups. These proposed adaptations should be assessed for usefulness, cost and accessibility in their actual setting.

Programme monitoring can combine process and commercial indicators. Payment success, delivery reliability and complaint resolution document transaction quality. Completed orders, net margins, repeat customers and the timing of settlement document commercial performance.

For a livelihood claim, evaluation must also observe income stability, business costs and household outcomes over time. Counting accounts opened or participants trained cannot substitute for those measurements.

Table 5. Proposed enterprise-support actions and evaluation measures

Support priority	Proposed action	Possible delivery partner	Outcome to measure
Transaction readiness	Test checkout; clarify charges, data use, payment confirmation and refunds.	Enterprise adviser with payment or platform provider	Payment success; failed-payment resolution; refund time
Customer discovery	Test accurate listings and small, traceable channel campaigns.	Seller, business association or marketing adviser	Qualified enquiries; cost per completed order; margin after returns
Service experience	Confirm orders, monitor dispatch and document complaints.	Seller with logistics provider	On-time delivery; resolution time; return reasons
Retention	Use consent-based, relevant service and repeat-purchase messages.	Seller or shared customer-support service	Repeat orders; net contribution; opt-outs
Inclusive participation	Test explanations and assisted use with underserved customers and owners.	Local enterprise organisation or development programme	Task completion by group; support cost; unmet assistance needs
Livelihood evaluation	Collect business and household outcomes over time using a comparison design.	Research and programme-evaluation partner	Income stability; net earnings; owner time; distribution of benefits

Note. These are proposed applications of the framework. No intervention, enterprise return, financial-inclusion effect or household livelihood outcome was measured in this survey.

Limitations and further research

The sample contains only 46 eligible respondents, with unknown recruitment and geography. It cannot represent online consumers, small enterprises or any national development setting. Its concentration of educated, experienced men excludes many groups central to inclusive enterprise development. Bootstrap intervals do not remedy this selection. A larger sample should be designed around explicit populations and meaningful variation in literacy, gender, location and seller type, with power justified for the smallest relationship of substantive interest. Measurement is a second major limitation. Promotional exposure has weak convergent validity under its reflective specification. The shopping index combines different activities and has low internal consistency. Attitude, satisfaction and intention have inadequate empirical distinction. Future instruments should specify whether every item refers to the same seller and purchase, separate recommendation from buying intention, and distinguish spending change from order

completion. The channel blocks could be modelled separately or aggregated using a theoretically justified alternative.

All perceptions were collected in one questionnaire, so common response tendencies, prior preferences and reverse association remain plausible. The model's arrows represent theoretical ordering rather than observed timing. Future research could measure trust before payment, satisfaction after delivery and actual repeat purchase later. Linking consenting customers to anonymised merchant records would also allow survey answers to be checked against orders, returns and payment outcomes.

The indirect-effect mismatch, undocumented estimation environment and fixed-score validation constrain reproducibility. The full export, questionnaire, software version, code, bootstrap settings and prediction procedure are needed to establish which reported statistics belong to the same fitted model. A complete validation should fit preprocessing and measurement within training folds and assess held-out predictions against benchmarks. The existing fixed-score statistics and an importance–performance map cannot establish intervention returns.

A practical next study could work with identified small retailers and record a baseline before introducing a defined transaction-information or service intervention. Where feasible, randomised allocation or a comparable untreated group would help distinguish change from seasonal demand and other influences. Primary outcomes should include completed orders, refunds and margins; secondary outcomes could include customer perceptions and owner time. A livelihood study would require household measures and longer follow-up. These designs would test the development applications proposed here while supplying the enterprise evidence missing from the pilot.

Conclusion

The pilot identifies positive associations between perceived transaction security and trust, and between promotional exposure and attitude towards online shopping. Attitude and satisfaction are associated with purchase intention, while trust's unique direct coefficient is inconclusive. The reported channel comparisons concern exposure, and the shopping index does not establish verified purchase conversion. Construct overlap, sample limitations and unresolved indirect-effect summaries qualify the findings.

For enterprise development, the contribution is a proposed framework connecting customer discovery, transaction assurance, service experience and commercial measurement. It suggests practical questions for small sellers and their support institutions, together with indicators that can test whether improved processes produce useful outcomes. Evidence of sustainable market participation, financial inclusion and livelihood improvement will require identified enterprises, more inclusive sampling, reliable transaction records and a design capable of assessing change.

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Appendix A. Supplementary results and numerical reconciliation

The following tables retain supplementary numerical results from the original analysis record. They have not been re-estimated from participant-level data. BEH denotes the self-reported shopping index previously labelled completed-shopping behaviour. DME = digital marketing exposure; SEC = perceived transaction security; TRU = store trust; ATT = attitude; SAT = satisfaction; PI = purchase intention.

Table A1. Selected reported Spearman correlations

Variable 1	Variable 2	rho	p
Transaction security	Store trust	0.528	<0.001
Digital marketing exposure	Attitude	0.643	<0.001
Digital marketing exposure	Purchase intention	0.758	<0.001
Store trust	Purchase intention	0.573	<0.001
Attitude	Purchase intention	0.871	<0.001
Satisfaction	Purchase intention	0.887	<0.001
Purchase intention	Self-reported shopping index	0.464	0.001
Digital literacy	Self-reported shopping index	0.534	<0.001

Note. Shopping-index terminology replaces the source's completed-shopping label. All correlations are retained as reported; they have not been recomputed.

Table A2. Selected reported HTMT ratios

Construct 1	Construct 2	HTMT
Store trust	Attitude	0.849
Store trust	Satisfaction	0.747
Attitude	Satisfaction	0.912
Attitude	Purchase intention	0.918
Satisfaction	Purchase intention	0.943
Purchase intention	Shopping index	0.693

Note. HTMT values of .912, .918 and .943 show unresolved overlap among attitude, satisfaction and purchase intention. Retaining their conceptual labels does not establish empirical distinction.

Table A3. Reported collinearity and effect-size diagnostics

Path	VIF	f ² (reported)
SEC → TRU	1.000	0.530
DME → ATT	1.000	0.741
TRU → SAT	1.000	0.803
ATT → PI	5.382	0.368
TRU → PI	2.355	0.110
SAT → PI	4.123	0.675
PI → BEH	1.000	0.399

Note. VIF = variance-inflation factor. Attitude VIF exceeds 5 in the intention equation. Effect sizes describe the fitted pilot model; they do not estimate intervention effects.

Table A4. In-sample explanatory values and supplementary fixed-score statistics

Outcome	R ²	Fixed-score CV statistic
Store trust	0.346	0.305
Attitude	0.426	0.392
Satisfaction	0.446	0.382
Purchase intention	0.873	0.827
Shopping index	0.285	0.258

Note. The final column was labelled Q² predict in the source and was calculated using full-sample latent scores with seven-fold splitting. It is retained as a reported statistic, not verified external prediction. R² differences across outcomes do not measure conversion leakage.

Table A5. Reported standardised HC3 regression models

Outcome	Predictor	Beta	95% CI	p
Trust in the online store	Perceived transaction security	0.411	[0.076, 0.747]	0.018
	Digital marketing exposure	0.237	[-0.157, 0.631]	0.232

Outcome	Predictor	Beta	95% CI	p
	Digital literacy	0.177	[-0.161, 0.516]	0.296
	Model fit	R ² = 0.430	Adjusted R ² = 0.389	p < 0.001
Attitude to online shopping	Digital marketing exposure	0.308	[-0.031, 0.647]	0.074
	Perceived transaction security	0.191	[-0.106, 0.488]	0.202
	Digital literacy	0.438	[0.110, 0.766]	0.010
	Model fit	R ² = 0.583	Adjusted R ² = 0.553	p < 0.001
Purchase intention	Trust in the online store	-0.192	[-0.459, 0.075]	0.155
	Attitude to online shopping	0.513	[0.071, 0.956]	0.024
	Satisfaction	0.550	[-0.005, 1.105]	0.052
	Digital literacy	0.052	[-0.157, 0.261]	0.619
	Model fit	R ² = 0.875	Adjusted R ² = 0.863	p < 0.001
Self-reported shopping index	Purchase intention	0.222	[-0.516, 0.961]	0.546
	Perceived transaction security	0.132	[-0.206, 0.470]	0.435
	Digital marketing exposure	-0.042	[-0.471, 0.387]	0.843
	Digital literacy	0.405	[-0.152, 0.962]	0.150
	Perceived transaction security x Digital marketing exposure	0.129	[-0.157, 0.415]	0.368
	Model fit	R ² = 0.383	Adjusted R ² = 0.306	p = 0.001

Note. Outcome names apply to subsequent blank cells until the next outcome. The source's model-fit entries are retained; their reported omnibus p-value procedure requires verification. Coefficients and confidence intervals have not been recomputed.

Table A6. Indirect-effect summaries requiring reconciliation

Indirect route	Source summary	Product of reported paths	Source 95% interval
DME → ATT → PI	0.369	$0.652 \times 0.501 = 0.327$	[0.144, 0.622]
SEC → TRU → SAT → PI	0.210	$0.588 \times 0.667 \times 0.594 = 0.233$	[0.060, 0.380]

Note. The products are arithmetic checks using rounded direct-path estimates, not re-estimated effects. The source summary might be a bootstrap mean, but its definition is undocumented. Source intervals are not transferred to the arithmetic products. Confirm the original-sample

estimate, bootstrap summary and interval from the same model before claiming H8a/H8b support.