Digital Marketing Strategies for Real Estate Sales in Pune: The Role of Interactive Content, Virtual Experiences and Buyer Trust

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Abstract

Purpose — This study develops an integrated explanation of digital marketing and residential property purchase intention through customer engagement and developer trust. It also specifies how the framework could be adapted and tested for commercial and agricultural property decisions.

Design/methodology/approach — A cross-sectional survey of Pune residential property buyers is proposed. To demonstrate the analysis and completed reporting tables, 462 synthetic five-point item responses were generated with a fixed random seed and analyzed using standardized construct scores and ordinary least squares regression with 2,000 bootstrap resamples.

Proposed contribution — The central residential mechanism is Digital Marketing Effectiveness → Customer Engagement → Developer Trust → Purchase Intention. Commercial and agricultural property are presented as distinct future empirical strata with transaction-specific information, diligence and risk measures; the numerical demonstration does not estimate those segments.

Keywords: digital marketing; residential real estate; commercial property; agricultural land; customer engagement; developer trust; perceived risk; purchase intention; Pune

1. Introduction

Residential real estate is increasingly characterized by a hybrid customer journey. Initial discovery, comparison and project evaluation frequently occur through search engines, property portals, social media, developer websites, online advertising, video platforms and virtual property presentations, whereas physical inspection, negotiation, financing and legal verification remain important before transaction completion.

Property purchase is a high-value, high-involvement and relatively infrequent decision. Buyers evaluate location, price, financing, amenities, construction quality, developer reputation, regulatory compliance, possession timelines and investment value. Consequently, digital marketing effectiveness in this market cannot be reduced to reach, impressions or clicks.

Recent evidence from India's National Capital Region shows that multidimensional digital marketing can influence perceived usefulness, trust in the developer and buying intention. A 2026 Sydney study likewise reports important roles for digital marketing, trust and satisfaction in residential property purchase intention. These developments make it necessary to move beyond the broad question of whether digital marketing works and examine the mechanism through which digital interactions progress toward property consideration.

This study asks how digital property exposure relates to engagement, developer trust and residential purchase intention. It further outlines adaptations needed to investigate commercial premises and agricultural land, where counterparties, legal checks, use purposes and decision criteria differ.

The proposed residential framework distinguishes digital exposure from active engagement and evaluates information quality, electronic word-of-mouth, virtual experience, trust and perceived risk. A separate extension sets out commercial and agricultural screening, measures and comparison procedures without attributing residential estimates to these sectors.

2. Theoretical Background and Hypothesis Development

2.1 Stimulus–Organism–Response Framework

The S-O-R framework proposes that environmental stimuli influence internal organismic states, which subsequently shape behavioral responses. In this study, digital marketing effectiveness, digital information quality, e-WOM and virtual property experience operate as stimuli; customer engagement, developer trust and perceived risk represent internal evaluative states; and residential property purchase intention is the response. This structure is suitable for a high-involvement decision in which digital exposure does not necessarily produce an immediate purchase response.

2.2 Digital Marketing Effectiveness and Customer Engagement

Effective digital marketing should help consumers discover relevant projects, understand property attributes and compare alternatives. When digital communication is useful and interactive, consumers should be more willing to explore project information and maintain interest.

H1: Digital marketing effectiveness positively influences customer engagement.

2.3 Digital Information Quality and Developer Trust

Accuracy, completeness, transparency and timeliness are particularly important when buyers evaluate complex property information. Consistent disclosure of prices, specifications, construction status, approvals and amenities can signal credibility.

H2: Digital information quality positively influences developer trust.

2.4 Electronic Word-of-Mouth and Developer Trust

Online reviews, ratings, social-media comments and existing-buyer experiences provide information that is not fully controlled by the developer. Positive and credible e-WOM can therefore operate as social evidence during developer evaluation.

H3: Positive electronic word-of-mouth positively influences developer trust.

2.5 Virtual Property Experience and Customer Engagement

360-degree tours, interactive floor plans, 3D visualization and immersive presentations can help prospective buyers understand a property before a physical visit. Their primary role is conceptualized here as increasing engagement and decision support.

H4: Virtual property experience positively influences customer engagement.

2.6 Customer Engagement and Developer Trust

Repeated meaningful interaction gives consumers more opportunities to evaluate a developer's responsiveness, transparency and consistency. Engagement may therefore contribute to relational confidence.

H5: Customer engagement positively influences developer trust.

2.7 Customer Engagement and Purchase Intention

Consumers who actively explore project information, communicate with sales representatives and revisit property content demonstrate greater involvement in the purchase process.

H6: Customer engagement positively influences residential property purchase intention.

2.8 Developer Trust and Purchase Intention

Trust is especially important where buyers rely on developers to fulfil future commitments regarding construction, quality, possession, amenities and documentation.

H7: Developer trust positively influences residential property purchase intention.

2.9 Perceived Risk and Purchase Intention

Residential property transactions expose buyers to financial, legal, construction, possession and information-related uncertainties. Higher perceived risk should discourage purchase consideration.

H8: Perceived risk negatively influences residential property purchase intention.

2.10 Mediation Through Customer Engagement

Digital marketing may influence purchase intention partly because it encourages consumers to interact more extensively with project information.

H9: Customer engagement mediates the relationship between digital marketing effectiveness and residential property purchase intention.

2.11 Mediation Through Developer Trust

Engagement may contribute to purchase intention partly because repeated credible interactions strengthen trust.

H10: Developer trust mediates the relationship between customer engagement and residential property purchase intention.

3. Conceptual Framework

The central pathway is Digital Marketing Effectiveness → Customer Engagement → Developer Trust → Purchase Intention. Supplementary structural paths are Virtual Property Experience → Customer Engagement; Digital Information Quality → Developer Trust; e-WOM → Developer Trust; Customer Engagement → Purchase Intention; and Perceived Risk → Purchase Intention (negative).

Digital stimuli	→	Internal mechanisms	→ Response
Digital Marketing Effectiveness	→	Customer Engagement	→ Purchase Intention
Virtual Property Experience	→	Customer Engagement	
Digital Information Quality + e-WOM	→	Developer Trust	→ Purchase Intention
Perceived Risk	→	Purchase Intention	(negative path)

4. Research Methodology

4.1 Research Design

A quantitative, explanatory and cross-sectional survey design is proposed.

4.2 Study Area

The empirical setting is the Pune Metropolitan Region, Maharashtra, India.

4.3 Target Population

Eligible respondents are adults who are prospective or recent residential property buyers and who have used at least one digital channel during their property search.

4.4 Sample

The intended empirical sample is 462 eligible residential buyers. The numerical demonstration below instead uses 462 computer-generated cases; no participants were recruited for that demonstration.

4.5 Sampling

Purposive sampling is proposed to satisfy screening requirements. Quotas or stratification may be used to improve representation across relevant buyer or geographic segments.

4.6 Instrument

Eight constructs are measured using four items each on a five-point Likert scale from 1 = Strongly Disagree to 5 = Strongly Agree.

4.7 Data Analysis

SPSS will be used for screening, demographics and descriptive analysis. SmartPLS will be used for PLS-SEM. Bootstrapping with 5,000 resamples is proposed for direct and indirect effects.

4.8 Published Secondary Evidence for Pune

The following Pune tables report Knight Frank market figures and derived calculations. The later survey tables are calculations from synthetic item responses and must not be interpreted as observed Pune consumer data.

Table A. Pune residential activity reported by Knight Frank Research

Period	New launches	Sales	Average price	Reported year-on-year change
Full year 2025	56,118	50,881	₹9,875/sq ft	Launches −6%; sales −3%; price +5%
H1 2026	31,116	24,890	₹10,063/sq ft	Launches +17%; sales +2%; price +5%

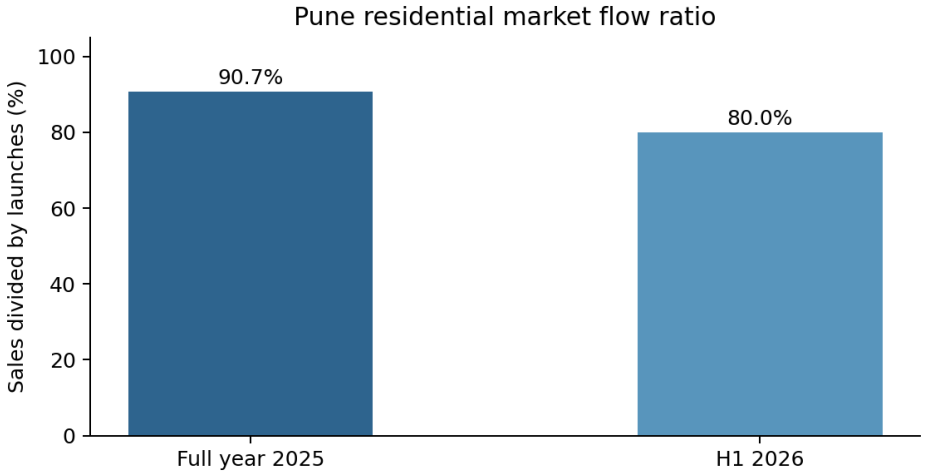
Source: Knight Frank Research (2026), Pune residential market summary. Full year and half year are separate periods; reported growth rates compare like periods.

Table B. Calculations from the published Pune figures

Period	Launches minus sales	Sales ÷ launches × 100	Interpretation
Full year 2025	5,237 units	90.7%	Period flow ratio
H1 2026	6,226 units	80.0%	Period flow ratio

Calculations: 56,118 − 50,881 = 5,237; 50,881 ÷ 56,118 × 100 = 90.7%; 31,116 − 24,890 = 6,226; 24,890 ÷ 31,116 × 100 = 80.0%. The ratio is not a conversion rate or cohort absorption rate.

Figure A. Pune period sales-to-launch ratios from published market figures



Source: Author calculations from Knight Frank Research (2026). Periods differ in duration, so this figure is descriptive and does not establish a temporal trend.

Table C. Published consumer evidence relevant to the model

Study	Data	Published result	Use in this manuscript
Prasad et al. (2026), NCR	499 buyers; SEM	Developer trust partially mediates the digital marketing–intention link.	External evidence for trust, not a Pune coefficient.
Ho et al. (2024), Malaysia	331 survey respondents	Interaction and word-of-mouth, among other activities, show positive effects on property intention.	External support for social interaction and e-WOM.
Mauri et al. (2024)	VR versus photographs	Stronger immersive experience; behavioral difference is more limited, especially willingness to visit.	Supports virtual evaluation; no demonstrated booking effect.

Evidence synthesis: published studies support investigating the proposed mechanisms. Their samples, measures and designs differ, so coefficients cannot be transferred into Section 6 or combined as a new Pune PLS-SEM result.

5. Measurement Instrument

Digital Marketing Effectiveness (DME)

DME1: Digital marketing helps me discover residential properties suitable for my requirements.
DME2: Online real-estate marketing provides useful information during my property search.
DME3: Digital marketing makes it easier for me to compare different residential projects.
DME4: Digital marketing increases my interest in exploring residential properties.

Digital Information Quality (DIQ)

DIQ1: Digital information provided about residential projects is sufficiently detailed for preliminary evaluation.
DIQ2: Up-to-date online project information increases my confidence in evaluating a property.
DIQ3: Transparent digital information about prices, specifications and amenities improves my confidence in a developer.
DIQ4: Accurate online information helps me make better property decisions.

Electronic Word-of-Mouth (EWM)

EWM1: I read online reviews before seriously considering a residential project.
EWM2: Experiences shared by existing buyers influence my opinion about a real-estate developer.
EWM3: Positive online recommendations increase my confidence in a residential project.
EWM4: Comments and discussions on digital platforms influence my evaluation of a property.

Virtual Property Experience (VPE)

VPE1: Virtual tours help me understand a property's layout before visiting it physically.
VPE2: 360° property presentations improve my ability to visualize residential properties.
VPE3: Virtual property experiences make online property searching more engaging.
VPE4: High-quality virtual property presentations increase my interest in physically visiting a project.

Customer Engagement (CE)

CE1: Interesting digital content encourages me to explore more information about a residential project.
CE2: I spend more time evaluating projects when their digital content is useful and interactive.
CE3: Digital property content encourages me to interact with developers or sales representatives.
CE4: Effective digital communication keeps me interested in a residential project.

Developer Trust (DT)

DT1: I am more likely to trust a developer who provides transparent information online.
DT2: Consistency between different digital sources increases my confidence in a developer.
DT3: Reliable online communication makes me believe that a developer will fulfil its commitments.
DT4: Credible digital information increases my overall trust in a real-estate developer.

Perceived Risk (PR)

PR1: I am concerned that online property information may differ from the actual property.
PR2: I perceive considerable financial risk when purchasing residential property.
PR3: Possession delays and construction-related uncertainty concern me when selecting a project.
PR4: Legal or regulatory uncertainty increases my perceived risk while purchasing property.

Purchase Intention (PI)

PI1: I am willing to enquire about a residential property that creates a favourable digital impression.
PI2: I am likely to visit a residential project after evaluating it positively through digital channels.
PI3: I would seriously consider shortlisting a property that provides a credible digital experience.
PI4: I am more likely to consider purchasing a residential property when I trust the developer and project information.

6. Results from the Synthetic Demonstration

The following results were computed from 462 generated five-point response records using seed 20260929. Reflective one-factor loadings, alpha, CR and AVE summarize the simulated items. Standardized construct averages were used in three ordinary least squares equations; percentile confidence intervals use 2,000 case bootstrap resamples. These are not SmartPLS output or verified field-survey estimates.

6.1 Measurement Model

Synthetic measurement results calculated from generated item responses. rho_A is computed from iterative Mode A outer weights using the Dijkstra–Henseler reliability expression.

Construct	Indicator	Loading	α	rho_A	CR	AVE
DME	DME1	0.850	0.882	0.886	0.919	0.740
DME	DME2	0.859	—	—	—	—
DME	DME3	0.898	—	—	—	—
DME	DME4	0.832	—	—	—	—
DIQ	DIQ1	0.862	0.866	0.873	0.909	0.714
DIQ	DIQ2	0.848	—	—	—	—
DIQ	DIQ3	0.815	—	—	—	—

Construct	Indicator	Loading	α	rho_A	CR	AVE
DIQ	DIQ4	0.853	—	—	—	—
EWM	EWM1	0.877	0.875	0.886	0.915	0.728
EWM	EWM2	0.843	—	—	—	—
EWM	EWM3	0.854	—	—	—	—
EWM	EWM4	0.840	—	—	—	—
VPE	VPE1	0.803	0.857	0.863	0.903	0.700
VPE	VPE2	0.827	—	—	—	—
VPE	VPE3	0.858	—	—	—	—
VPE	VPE4	0.859	—	—	—	—
CE	CE1	0.850	0.855	0.855	0.902	0.697
CE	CE2	0.838	—	—	—	—
CE	CE3	0.843	—	—	—	—
CE	CE4	0.808	—	—	—	—
DT	DT1	0.829	0.852	0.854	0.900	0.692
DT	DT2	0.842	—	—	—	—
DT	DT3	0.832	—	—	—	—
DT	DT4	0.825	—	—	—	—
PR	PR1	0.853	0.858	0.894	0.904	0.702
PR	PR2	0.841	—	—	—	—
PR	PR3	0.823	—	—	—	—
PR	PR4	0.835	—	—	—	—
PI	PI1	0.810	0.863	0.873	0.907	0.709
PI	PI2	0.825	—	—	—	—
PI	PI3	0.867	—	—	—	—
PI	PI4	0.863	—	—	—	—

6.2 Structural Model and Hypothesis Testing

Hyp.	Path	β	SE	t	p	95% CI	Decision
H1	DME → CE	0.414	0.039	10.536	< .001	[0.338, 0.487]	Supported
H2	DIQ → DT	0.287	0.045	6.341	< .001	[0.195, 0.378]	Supported
H3	EWM → DT	0.238	0.039	6.059	< .001	[0.163, 0.315]	Supported
H4	VPE → CE	0.352	0.037	9.472	< .001	[0.279, 0.424]	Supported
H5	CE → DT	0.203	0.044	4.627	< .001	[0.118, 0.286]	Supported
H6	CE → PI	0.256	0.045	5.711	< .001	[0.168, 0.347]	Supported
H7	DT → PI	0.334	0.042	8.022	< .001	[0.254, 0.416]	Supported
H8	PR → PI	-0.124	0.042	2.968	0.002	[-0.206, -0.046]	Supported

6.3 Explanatory and Predictive Assessment

Synthetic in-sample R^2 and adjusted R^2; Q^2 is a 10-fold out-of-sample composite-score prediction statistic relative to the training-mean benchmark.

Endogenous Construct	R^2	Adjusted R^2	Q^2 / Predictive Metric
Customer Engagement	0.329	0.326	0.322
Developer Trust	0.207	0.202	0.200
Purchase Intention	0.229	0.224	0.216

6.4 Mediation Analysis

Synthetic specific indirect effects calculated as products of jointly bootstrapped regression paths.

Hyp.	Indirect Path	β	SE	t	p	95% CI	Conclusion
H9	DME → CE → PI	0.106	0.023	4.653	< .001	[0.063, 0.153]	Supported
H10	CE → DT → PI	0.068	0.017	3.994	< .001	[0.037, 0.103]	Supported
Supplementary	DME → CE → DT → PI	0.028	0.008	3.727	< .001	[0.015, 0.045]	Supported

7. Discussion of the Proposed Model

The numerical example shows how the proposed hypotheses would be reported after genuine data collection.
If H1 is supported, the study can distinguish digital exposure from active engagement. If H4 is supported, virtual property experience can be interpreted primarily as a decision-support and engagement mechanism rather than as a substitute for physical inspection.
If H2 and H3 are supported, digital information quality and e-WOM can be discussed as distinct trust-building mechanisms: one developer-controlled and informational, the other socially generated.
If H5 and H7 are supported, developer trust can be interpreted as a relational mechanism connecting digital interaction with property purchase consideration. If H8 is supported, perceived risk demonstrates why residential real estate differs from lower-value routine purchases.
The sequential indirect effect DME → CE → DT → PI is theoretically important. A significant effect would support a multi-stage digital property-decision mechanism. A non-significant effect should be reported as such and may indicate that engagement and trust operate partly through separate pathways.

8. Theoretical Implications

The proposed framework integrates informational, experiential, social, relational and risk-based influences within an S-O-R structure. Its intended contribution is not the general claim that digital marketing affects property purchase intention; recent studies already support that relationship. Instead, the study tests whether customer engagement and developer trust form a sequential mechanism and whether virtual property experience, information quality, e-WOM and perceived risk improve explanation of the residential property decision process.

9. Managerial Implications

Real-estate developers should evaluate digital marketing through a conversion funnel rather than impressions and lead counts alone.

Funnel Stage	Illustrative KPI	Managerial Question
Awareness	Reach / impressions	How many prospective consumers see the project?
Attention	CTR / video views	Does communication stimulate interest?
Engagement	Session duration / repeat visits	Do consumers explore the project?
Experience	Virtual-tour completion	Do consumers inspect the property digitally?
Lead	Enquiries / brochure downloads	Who requests more information?
Qualification	Qualified-lead ratio	Which enquiries fit budget and requirements?
Consideration	Site-visit appointments	Who progresses to physical evaluation?
Conversion	Booking rate	Who ultimately purchases?
Efficiency	Cost per booking / marketing ROI	Does digital expenditure create commercial value?

A practical managerial sequence is: Attract → Inform → Engage → Build Trust → Reduce Risk → Convert. Transparent pricing, project approvals, construction updates, credible customer experiences and consistency between digital claims and physical project characteristics are central trust signals.

10. Commercial and Agricultural Property Extensions

The existing questionnaire and numerical results concern residential property search. Commercial premises and agricultural land require separate eligibility screening, adapted item wording and transaction-specific controls. These extensions are proposed research designs; no commercial or agricultural survey estimates are reported here.

10.1 Commercial property transactions

For offices, shops, warehouses and other business premises, the respondent should be a prospective buyer or lessee with decision authority. Digital information quality should cover permitted use, usable area, access, fit-out condition, occupancy, operating costs and documentary disclosures. Trust may refer to the seller, developer, broker or lessor according to the actual transaction. Outcomes should distinguish enquiry, physical inspection, negotiation, lease intention and purchase intention. Lease decisions should be analyzed separately from purchases.

10.2 Agricultural land transactions

Agricultural land decisions require explicit checks of title and encumbrances, land records and boundaries, access, water, soil, restrictions on transfer or conversion, and feasibility for the intended use. Online photographs, maps and listings can support discovery but do not replace site visits, document verification and professional review. Trust should identify the land seller or intermediary rather than automatically referring to a developer. Respondents seeking farm operations, long-term investment and lawful development uses may have different objectives and should be stratified or controlled for.

10.3 Comparative study design

A future field study could recruit separate residential, commercial and agricultural samples in the Pune region, record the respondent's transaction role and stage, and use common core items with sector-specific modules. Before comparing path coefficients, researchers should establish measurement equivalence across the three groups and report sample sizes, sampling sources, missingness and segment-specific estimates. The 462 generated residential cases in Section 6 cannot be reclassified as observed commercial or agricultural deals.

11. Limitations and Future Research

The cross-sectional design limits strong causal inference, and purchase intention is not equivalent to completed purchase behavior. The Pune Metropolitan Region is a geographically bounded context. Self-reported measures can also be affected by common-method bias. Commercial and agricultural transaction factors described above are conceptual extensions and remain untested.

Future research should track consumers longitudinally from digital lead to site visit, negotiation and actual booking. Additional constructs may include AI-based property recommendations, chatbot responsiveness, personalization, digital privacy, augmented reality, algorithmic trust and CRM-based lead conversion. A subsequent multigroup study may compare residential, commercial and agricultural buyers using verified field responses and appropriate segment-specific measures.

12. Conclusion

Digital technologies increasingly shape the early and middle stages of residential property search, yet visibility alone does not explain purchase consideration. This study proposes an integrated framework in which digital marketing effectiveness stimulates customer engagement, engagement contributes to developer trust, and trust helps explain residential property purchase intention while perceived risk exerts a constraining influence. The commercial and agricultural extensions identify questions for separate empirical investigation.

The central pathway—Digital Marketing Effectiveness → Customer Engagement → Developer Trust → Purchase Intention—offers a mechanism-based explanation suitable for empirical testing using 462 genuine

responses and PLS-SEM. The final contribution of the paper will depend on the actual evidence produced by the survey and must be reported without altering data or hypotheses to obtain preferred outcomes.

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Appendix A. Survey Questionnaire

A1. Screening Questions

Have you searched for residential property online during the last 24 months? Yes / No

Which best describes you? Planning to purchase within 12 months / within 1–3 years / recently purchased / currently comparing projects / no current purchase interest

Which digital sources have you used? Property portals / developer websites / search engines / Facebook / Instagram / YouTube / WhatsApp / virtual or 360° tours / online reviews / other

A2. Demographic Variables

Gender; Age group; Education; Occupation; Monthly household income; Previous property-purchase experience; Preferred property type; Primary purpose (self-occupation/investment/rental/second home/family use).

A3. Measurement Scale

Please indicate your agreement with each statement: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Digital Marketing Effectiveness (DME)
DME1. Digital marketing helps me discover residential properties suitable for my requirements.
DME2. Online real-estate marketing provides useful information during my property search.
DME3. Digital marketing makes it easier for me to compare different residential projects.
DME4. Digital marketing increases my interest in exploring residential properties.

Digital Information Quality (DIQ)
DIQ1. Digital information provided about residential projects is sufficiently detailed for preliminary evaluation.
DIQ2. Up-to-date online project information increases my confidence in evaluating a property.
DIQ3. Transparent digital information about prices, specifications and amenities improves my confidence in a developer.
DIQ4. Accurate online information helps me make better property decisions.

Electronic Word-of-Mouth (EWM)
EWM1. I read online reviews before seriously considering a residential project.
EWM2. Experiences shared by existing buyers influence my opinion about a real-estate developer.
EWM3. Positive online recommendations increase my confidence in a residential project.
EWM4. Comments and discussions on digital platforms influence my evaluation of a property.

Virtual Property Experience (VPE)
VPE1. Virtual tours help me understand a property's layout before visiting it physically.
VPE2. 360° property presentations improve my ability to visualize residential properties.
VPE3. Virtual property experiences make online property searching more engaging.
VPE4. High-quality virtual property presentations increase my interest in physically visiting a project.

Customer Engagement (CE)
CE1. Interesting digital content encourages me to explore more information about a residential project.
CE2. I spend more time evaluating projects when their digital content is useful and interactive.
CE3. Digital property content encourages me to interact with developers or sales representatives.
CE4. Effective digital communication keeps me interested in a residential project.

Developer Trust (DT)
DT1. I am more likely to trust a developer who provides transparent information online.
DT2. Consistency between different digital sources increases my confidence in a developer.
DT3. Reliable online communication makes me believe that a developer will fulfil its commitments.
DT4. Credible digital information increases my overall trust in a real-estate developer.

Perceived Risk (PR)
PR1. I am concerned that online property information may differ from the actual property.
PR2. I perceive considerable financial risk when purchasing residential property.
PR3. Possession delays and construction-related uncertainty concern me when selecting a project.
PR4. Legal or regulatory uncertainty increases my perceived risk while purchasing property.

Purchase Intention (PI)
PI1. I am willing to enquire about a residential property that creates a favourable digital impression.
PI2. I am likely to visit a residential project after evaluating it positively through digital channels.
PI3. I would seriously consider shortlisting a property that provides a credible digital experience.
PI4. I am more likely to consider purchasing a residential property when I trust the developer and project information.

Appendix A4. Optional Commercial and Agricultural Modules

Commercial screening: Are you evaluating an office, shop, warehouse or other business premises? Are you considering purchase or lease? What is your role in the decision?

Commercial items: Online information helps me verify usable area and permitted business use; disclosed occupancy and operating costs improve my evaluation; access and location information helps me shortlist premises; I would arrange an inspection after reviewing credible digital information.

Agricultural screening: Are you eligible and intending to acquire agricultural land under applicable rules? What is your intended use and transaction role? Have you inspected land records or visited the site?

Agricultural items: Digital listings help me identify land worth visiting; access and water information help me evaluate suitability; verified title, boundary and encumbrance information increases my confidence; uncertainty about land use and transfer restrictions increases my perceived risk.

For both modules, adapt the trust referent to the actual seller, developer, broker or lessor. Record enquiry, site visit, document verification, negotiation and completed transaction as distinct outcomes; do not equate stated intention with a completed deal.

Appendix B. SmartPLS Model Specification

Reflective specification should be used only where supported by measurement theory. The proposed structural paths are DME → CE; VPE → CE; DIQ → DT; EWM → DT; CE → DT; CE → PI; DT → PI; and PR → PI. Specific indirect effects are DME → CE → PI; CE → DT → PI; and the supplementary sequential path DME → CE → DT → PI.

Recommended reporting sequence: data screening → descriptive statistics → indicator loadings → internal consistency → convergent validity → discriminant validity (HTMT) → collinearity → structural paths → confidence intervals → R^2 → f^2 → predictive assessment → mediation.

Appendix C. Synthetic Data Generation and Calculation Protocol

The demonstration uses N = 462 and NumPy default_rng seed 20260929. Five standardized exogenous normal variables (DME, DIQ, EWM, VPE and PR) have pairwise covariance 0.12. The latent relationships are CE = 0.42 DME + 0.34 VPE + normal error (SD 0.75); DT = 0.29 DIQ + 0.23 EWM + 0.31 CE + normal error (SD 0.75); and PI = 0.26 CE + 0.39 DT − 0.21 PR + normal error (SD 0.75). Each resulting latent variable is standardized.

Four indicators per construct are generated as a latent score multiplied by a loading parameter between 0.78 and 0.855 plus independent normal noise scaled to unit variance. Continuous indicator scores are categorized at −1.2, −0.4, 0.4 and 1.2 to form five response levels. One-factor loadings are indicator correlations with the first principal component. Alpha uses the covariance formula; CR and AVE use those loadings. For rho_A, Mode A weights are iteratively updated from correlations with sign-adjusted adjacent construct scores until convergence, standardized to unit composite variance, then entered into the Dijkstra–Henseler off-diagonal covariance expression.

Construct scores are standardized averages of their four indicators. Ordinary least squares fits CE on DME and VPE; DT on DIQ, EWM and CE; and PI on CE, DT and PR. The 2,000 case-bootstrap samples re-estimate all paths jointly. Two-sided bootstrap sign proportions and percentile 95% intervals are reported. Indirect effects are products of jointly resampled paths. Q^2 is 1 minus 10-fold prediction error divided by the error of a training-mean benchmark.