

Deal Proneness in Branded Sports-Footwear Shopping: A Marathwada Research Framework and Transparent Simulation

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ABSTRACT

Purpose: This article develops an evidence-grounded framework for studying deal proneness among purchasers of branded sports shoes in the eight districts of Maharashtra's Marathwada region. Design: The research integrates verified scholarship on transaction utility, price perceptions, promotion benefits, and brand loyalty with the objectives and six hypotheses in the supplied Ph.D. synopsis. Because no original respondent records accompanied that synopsis, the quantitative component is an explicitly synthetic, reproducible methodological demonstration-not a Marathwada consumer survey. A fixed-seed dataset of 1,000 simulated cases, balanced by gender and district, illustrates multi-item reliability, robust multivariable regression, a within-person seasonal-sale vignette, multiplicity adjustment, and interaction sensitivity. Findings: In this constructed dataset, deal-proneness scores are associated with price sensitivity ($\beta = .280$), e-commerce-deal exposure ($\beta = .195$), sales-period responsiveness ($\beta = .107$), and non-monetary deals ($\beta = .188$); the assumed brand-loyalty association and gender interaction are not detected in this particular realization. Simulated seasonal purchase intention exceeds regular-period intention by .399 Likert points. These statistics are properties of the programmed data-generating process and provide no evidence of prevalence or effects in Marathwada. Contribution: The article operationalizes the synopsis, separates trait deal proneness from promotional responses, identifies testable measurements, and specifies an ethically defensible field-validation design.

Keywords: deal proneness; sports footwear; Marathwada; price sensitivity; non-monetary promotions; e-commerce; Monte Carlo simulation

INTRODUCTION

Deal proneness denotes a consumer's dispositional responsiveness to promotional transactions, rather than simply a preference for the lowest price. The distinction matters particularly for branded sports footwear, where functional attributes-fit, injury-related comfort, material quality, and durability-coexist with visible brand symbolism, aesthetics, and lifestyle positioning. A shopper may seek a discount while remaining loyal to a preferred brand, or may switch brands when transaction savings outweigh prior brand preference. The framework therefore separates the perceived value of the product from the additional utility attributed to receiving a promotional offer (Lichtenstein, Netemeyer, & Burton, 1990). The source synopsis locates the proposed study in Chhatrapati Sambhajinagar, Jalna, Beed, Dharashiv, Latur, Nanded, Parbhani, and Hingoli and targets adults aged 18–60 who purchased branded sports shoes within the preceding three years. Its scope includes physical stores and e-commerce buyers, monetary and non-monetary offers, and gender as a potential moderator. These are design specifications, not evidence that any particular regional pattern has already been observed. There is a commercial rationale for category-specific analysis. Grand View Research estimates the value of India's broad athletic-footwear market at US\$6,879.5 million in 2022 and projects US\$11,342.1 million by 2030 (6.4% projected CAGR for 2023–2030). These are vendor estimates for India as a whole, not a sales series or consumer-behaviour estimate for Marathwada. Likewise, an India Brand Equity Foundation account of a 2025 ANAROCK/ETRetail report notes that the proportion of online shoppers from India's tier-II and tier-III cities rose from 46% in FY2020 to 56% in FY2024; that observation motivates studying channel differences but cannot be applied directly to this region or product category.

2. LITERATURE REVIEW AND THEORETICAL FOUNDATION

2.1 Deal proneness, transaction utility, and price consciousness

Bawa and Shoemaker (1987) showed that coupon usage can show consistency across product categories while varying with household purchasing patterns; their work cautions against identifying “deal prone” consumers solely by one redemption event. Lichtenstein et al. (1990) distinguish coupon proneness from value consciousness and position deal responses within acquisition–transaction utility theory. Lichtenstein, Ridgway, and Netemeyer (1993) subsequently demonstrate that distinct price-related perceptions help explain search, sale responsiveness, and coupon redemption. Together, these studies justify measuring deal proneness as a multi-item psychological construct while treating price sensitivity as an explanatory variable rather than an interchangeable label.

2.2 Promotional benefit and brand loyalty

Chandon, Wansink, and Laurent (2000) identify utilitarian benefits of promotions, such as savings and convenience, as well as hedonic benefits, such as exploration and enjoyment. Non-monetary inducements-free accessories, loyalty points, bundled services, or complimentary delivery-may therefore affect consumers who are not primarily motivated by headline discounts. Palazón and Delgado-Ballester (2009) further find that relative effectiveness of price discounts and premiums depends on the magnitude of the benefit. Yi (2011) reports differential longer-term effects of monetary and non-monetary promotions on brand attitudes, with deal proneness playing a moderating role. These results suggest measuring monetary and non-monetary components separately instead of constructing a single undifferentiated “offer” indicator.

Brand loyalty merits separate treatment. Ailawadi, Neslin, and Gedenk (2001) find that price-promotional choices and value-conscious consumption cannot be explained by demographics alone. Joseph, Sivakumaran, and Mathew (2020) also show that the relationship between sales promotions and brand equity can vary across loyalty segments. Accordingly, loyalty could dampen switching in response to a competing offer yet coexist with deal seeking within a preferred brand; its predicted direction should not be imposed on a regional sample before observation.

2.3 Seasonal sales, e-commerce, and footwear context

Gupta (1988) decomposes promotional sales changes into brand switching, purchase acceleration, and stockpiling, using grocery scanner data. His evidence is important methodologically but should not be imported as a numerical estimate for sports shoes, which are purchased less frequently. Neslin, Henderson, and Quelch (1985) likewise distinguish purchase acceleration from quantity effects. For online retail, a large platform field experiment by Zhang et al. (2020) finds both immediate gains and subsequent strategic shopping responses to price promotions. In Indian consumer research, Bandyopadhyay, Sivakumaran, Patro, and Kumar (2021) distinguish immediate and delayed monetary and non-monetary promotions when examining impulse purchases; their findings motivate explicit promotion-type questions without asserting their applicability to all sports-footwear buyers.

Three gaps remain open for the proposed setting: region-specific measurement of latent deal proneness, comparability of online and offline promotional experiences, and separation of genuine gender-related moderation from differential exposure to brands and channels. Since the available source is a proposal, not a dataset, a reproducible demonstration is a suitable intermediate contribution while field data collection is pending.

3. OBJECTIVES, MODEL, AND HYPOTHESES

The original synopsis proposes assessing deal proneness, studying gender differences, examining promotion-related purchase behavior, and isolating the influence of non-monetary deals. Its prose lists H3 as seasonal periods and H4 as e-commerce, whereas labels H3–H5 on its conceptual diagram follow a different order. This article retains the numbered hypotheses as stated in the synopsis text and makes the outcome variables explicit.

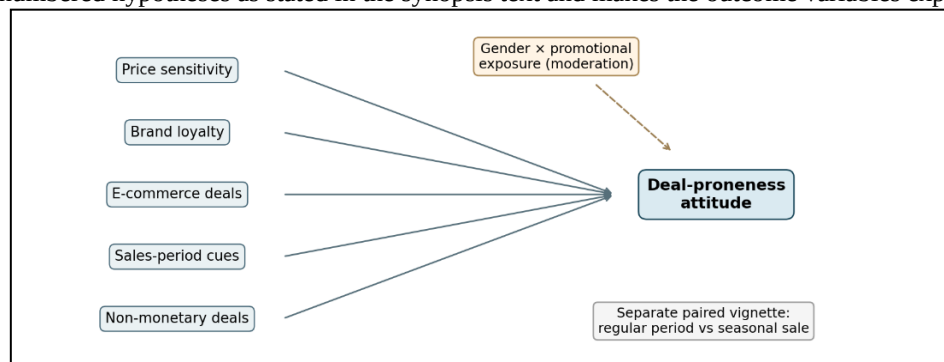


Figure 1. Operationalized model based on the synopsis. H3 is tested separately through paired shopping vignettes; H6 is an interaction with a promotional-exposure index.

Table 1. Six hypotheses preserved from the text of the supplied synopsis; association hypotheses are not interpreted causally.

H1	Higher price sensitivity is associated with greater deal-proneness attitude; multivariable regression.
H2	Brand loyalty is related to deal-proneness attitude (two-sided); multivariable regression.
H3	Purchase intention is higher under a stated seasonal-sale scenario than an otherwise comparable regular-period scenario; paired contrast.
H4	E-commerce promotional exposure is related to deal-proneness attitude; multivariable regression.
H5	Non-monetary promotion responsiveness is related to deal-proneness attitude; multivariable regression.
H6	Gender moderates the association of composite promotional exposure with deal-proneness attitude; interaction term.

4. RESEARCH DESIGN AND METHODS

4.1 Proposed field population, sampling, and sample-size logic

For the eventual empirical study, the eligibility criteria are residence in one of Marathwada's eight districts, age 18–60 years, and a self-reported purchase of branded sports shoes during the past three years. Each participant-not each store visit-is the unit of analysis. The synopsis proposes purposive recruitment at retail outlets and through digital shoppers, with a total of 1,000 respondents and equal allocations of 500 men and 500 women. The illustrative allocation in the simulation adds 125 cases for each district only to stress-test analysis across locations; it is not a population-based district quota. A pre-pilot screening item should verify shoe category and an authenticated brand, excluding merely intended purchases.

With 95% confidence, $p = .50$, and a nominal ± 5 percentage-point margin of error, Cochran's large-population formula gives $n_0 = (1.96^2 \times .5 \times .5) / .05^2 = 384.16$, conventionally rounded up to 385. A target of 1,000 improves the number available for subgroup modelling, but neither this calculation nor the balanced quotas removes coverage and selection bias introduced by non-probability sampling. The $\pm 5\%$ probability-sample interpretation should not be claimed for a purposive sample.

4.2 Instrument and construct operationalization

The proposed instrument uses five-point agreement responses (1 = strongly disagree to 5 = strongly agree). Price sensitivity, brand loyalty, exposure to e-commerce deals, responsiveness to specific sale periods, and perceived value of non-monetary deals each have three illustrative items. A four-item deal-proneness scale is the primary outcome. Items should be translated and back-translated for Marathi/Hindi where applicable, cognitively tested with local shoppers, randomized within blocks, and screened for careless responses. These are newly proposed items informed by the verified literature; they are not represented as authorized copies of established scales.

A two-condition purchase vignette measures the same participant's stated likelihood of buying comparable, properly sized, authentic footwear at a regular time and during a credible seasonal sale. Product image, delivery, and return conditions should be held constant while only promotional timing changes. This paired comparison measures stated intention under scenarios, not actual purchase decisions and not a stable trait. Channel history, purchase price bracket, education, district, age, and brand purchased can be recorded as descriptive covariates for field analysis.

4.3 Original synthetic dataset and reproducible generation

To make the statistical workflow auditable without fabricating fieldwork, 1,000 synthetic records were generated with NumPy's default random generator using fixed seed 260925. Five latent predictors were drawn from a standardized multivariate normal distribution with a common pairwise correlation of .18. The latent deal-proneness score was generated with stipulated coefficients of .34 for price sensitivity, $-.08$ for loyalty, .19 for e-commerce exposure, .17 for sales-period responsiveness, and .15 for non-monetary deals, plus a stipulated .16 gender $\times$ promotional-exposure term and normally distributed error (SD .73). Values were converted into bounded, rounded 1–5 item scores by adding independent item noise. The regression estimates reported later are recovered from noisy, discretized scale scores, not from observed individuals.

Gender was artificially balanced (500 records per category); the eight synthetic district groups contain 125 records each. Age bands were randomly assigned with preselected weights and do not estimate real district demographics. Regular-period intention was simulated from shared purchase propensity plus error; seasonal-sale intention included a prespecified positive shift of .37 before 1–5 rounding. The source code and item-level CSV accompanying this paper allow exact replication. The generating coefficients are structural assumptions; the simulation cannot independently corroborate those assumptions.

4.4 Statistical analysis and sensitivity protocol

Scale reliability was summarized using Cronbach's α , computed separately for each construct. Descriptive scale means and standard deviations were followed by ordinary least squares on standardized scale scores with HC3 heteroskedasticity-consistent 95% intervals. Predictors were price sensitivity, loyalty, e-commerce exposure, sales-period responsiveness, non-monetary deals, centred gender, and gender $\times$ a standardized mean of the latter three promotional-exposure scales. The paired regular-versus-sale intention difference was assessed with a paired t statistic. For the six numbered tests, Holm-adjusted p -values address familywise multiplicity. Effect sizes and interval widths are more informative for future field planning than binary p -value decisions.

A separate 350-replication Monte Carlo sensitivity experiment assessed the frequency with which a correctly specified continuous latent model detects a gender $\times$ promotional-exposure coefficient at the nominal .05 level, under specified true coefficients of 0, .06, .12, and .18. This is an optimistic model-based power benchmark: unlike a real questionnaire, the sensitivity experiment assumes error-free continuous predictors. A future empirical paper must prespecify missing-data handling, account for clustered recruitment by outlet, test measurement invariance before comparing groups, and distinguish association from intervention effects.

5. RESULTS

5.1 Verifiable secondary market context

Two externally published indicators establish context without being treated as respondent evidence. Grand View Research's India athletic-footwear estimate is US\$6.8795 billion for 2022 and its projection is US\$11.3421 billion for 2030; the figures refer to a broad national category and a commercial forecast. The India Brand Equity Foundation's February 2025 summary of ANAROCK/ETRetail places the tier-II/tier-III share of Indian online shoppers at 46% in FY2020 and 56% in FY2024. Neither publication provides a Marathwada sports-shoe cross-tabulation, deal-proneness score, or local gender interaction.

5.2 Single-run synthetic scale diagnostics

Table 2. Simulated five-point scale summaries (n = 1,000). No entries represent surveyed shoppers.

Synthetic construct	Items	α	Mean	SD
Price sensitivity	3	.811	2.97	.88
Brand loyalty	3	.822	2.97	.92
E-commerce deal exposure	3	.821	3.02	.92
Sales-period responsiveness	3	.814	3.02	.90
Non-monetary deal value	3	.812	3.01	.91
Deal-proneness attitude	4	.812	2.98	.83

The α values near .81–.82 indicate that the constructed noisy items cohere under the specified generating mechanism; they do not validate a field questionnaire. Actual construct validity additionally requires substantive item review, confirmatory factor analysis where justified, discriminant-validity assessment, and measurement-invariance tests across language and gender groups.

5.3 Model-based demonstration of the six hypotheses

The simulated regression has $R^2 = .205$ and adjusted $R^2 = .200$ (n = 1,000). Table 3 reports robust standardized partial slopes. Under the assumed generating mechanism and subsequent item noise, the largest recovered partial slope is for price sensitivity (.280), followed by e-commerce exposure (.195) and non-monetary deals (.188). The brand-loyalty coefficient is $-.056$, and the observed interaction is .053 with an interval crossing zero. The signs and statistical decisions are artifacts of this synthetic realization, not estimates of local shopping patterns.

Table 3. Synthetic regression on standardized deal-proneness scores; HC3 confidence intervals.

Predictor	β	95% interval	Raw p
Price sensitivity	.280	[.220, .339]	< .001
Brand loyalty	-.056	[-.115, .003]	.0647
E-commerce deal exposure	.195	[.136, .254]	< .001
Sales-period responsiveness	.107	[.048, .166]	.00035
Non-monetary deal value	.188	[.131, .245]	< .001
Gender $\times$ promotional index	.053	[-.058, .163]	.3484

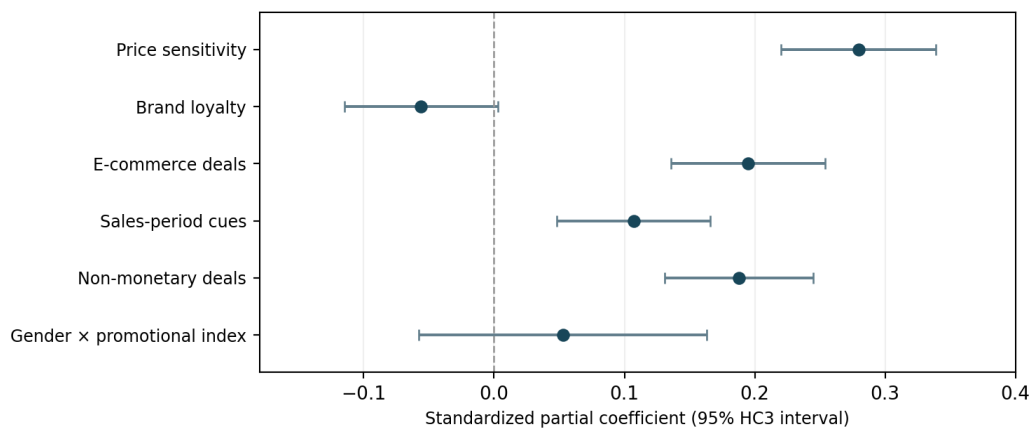


Figure 2. Illustrative partial coefficients and 95% robust intervals derived entirely from the synthetic item-level file.

The paired seasonal vignette produces a synthetic mean intention of 3.449 versus 3.050 in the regular vignette, a mean difference of .399 points (95% interval [.346, .452]; paired $t = 14.823$). The positive seasonal effect was built into the generator and should be read as a pipeline test. It does not indicate an observed Diwali, festive-season, or end-of-season effect in the region.

Table 4. Six synopsis hypotheses evaluated only within the synthetic demonstration.

Test	Synthetic statistic	Holm-adjusted p	Pipeline detects signal?
H1: Price sensitivity	$\beta = .280$	$< .001$	Yes
H2: Loyalty	$\beta = -.056$	.1293	No
H3: Sale vs. regular	$\Delta = .399$	$< .001$	Yes
H4: E-commerce	$\beta = .195$	$< .001$	Yes
H5: Non-monetary	$\beta = .188$	$< .001$	Yes
H6: Gender interaction	$\beta = .053$	.3484	No

5.4 Simulation-based interaction sensitivity

Across 350 new synthetic datasets for each assumed interaction strength, nominal detection rates were 4.6% when the true interaction was zero, 27.1% for .06, 75.1% for .12, and 96.0% for .18. These rates characterize the particular idealized model, sample size, and .05 test. They do not quantify statistical power for actual five-point responses, model misspecification, outlet clustering, or the planned purposive sample. Their principal use is to warn that a 1,000-person total sample does not guarantee adequate sensitivity to modest subgroup interactions.

6. DISCUSSION

The conceptual synthesis indicates why deal proneness should be treated as more than income-related price sensitivity. Brand signals matter for footwear because a promotion changes transaction utility while product fit and quality continue to shape acquisition utility. A valid regional analysis will need to establish whether customers search for a lower price on the same brand, postpone a planned purchase, accept an alternative brand, or purchase a pair they had not previously intended to buy. These mechanisms imply different managerial responses but cannot be disentangled from a single generic “discount attracted me” item.

The analytic demonstration illustrates three important design lessons. First, treating sales timing as a within-person scenario yields a directly interpretable comparison and avoids conflating frequent shopping during sales with stable deal-proneness attitude. Second, a composite promotional-exposure $\times$ gender interaction can be estimated while controlling the main promotional predictors, but its interval may remain wide despite a large nominal n ; subgroup claims should therefore rely on effect sizes and measurement invariance. Third, an α above a convenient threshold can be engineered by the assumed measurement model, underscoring that reliability is not equivalent to content, criterion, or construct validity.

The reviewed literature also supports caution about transferability. Gupta’s scanner-data decomposition concerns grocery products; Zhang et al.’s field experiment concerns a very large Chinese retail platform; and the cited national footwear market figures are commercial estimates, not a local behavioural sampling frame. They justify questions and competing explanations but provide no defensible basis for declaring which marketing offer currently works in Marathwada. Direct validation will require district-aware recruitment, coverage of both store-based and digital buyers, and a recorded acquisition date for each response.

7. MANAGERIAL AND RESEARCH IMPLICATIONS

For brand owners and regional retailers, the framework yields a test matrix rather than a predetermined promotion prescription. Randomized retailer-assisted field vignettes could compare transparent rupee discounts, percentage discounts, loyalty benefits, free accessories, and extended return privileges at matched perceived value. Purchase intention should be recorded alongside authenticity concerns, stock availability, model preference, and final out-of-pocket price. Subsequent actual sales or consent-based receipt verification would establish whether attitudinal deal proneness predicts observed behaviour and whether discounts induce new purchases or simply shift their timing.

For a future thesis dataset, recruit across all eight districts with documented outlet and online-source quotas, record inclusion and refusals, pilot the translated scales with a small independent group, and secure informed consent. Distinguish genders using participant self-report and include an appropriate optional response category; if the final design requires strictly balanced two-group comparison, explain exclusions rather than assuming binary categories exhaust the population. Specify quality-screening rules before analysis and release a de-identified codebook where consent and institutional approval allow.

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