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Research Article

Impact of Shrinkflation in Chhattisgarh-A Comprehensive Research Study with Empirical Data Analysis

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ABSTRACT

Purpose

This study investigates the prevalence and impact of shrinkflation on consumer awareness, trust, purchasing behaviour, and policy preferences in Chhattisgarh, India.

Design/Methodology/Approach

Primary data were collected from 385 respondents using stratified random sampling across urban and rural districts. A structured five-section Likert-scale questionnaire was administered. Data were analysed using descriptive statistics, Chi-square tests, One-Way ANOVA, multiple regression analysis, and Principal Component Analysis (PCA).

Findings

Although 71.4% of respondents noticed product size reductions without price decreases, only 42.6% were familiar with the term "shrinkflation." Regression results indicate that direct experience of downsizing ($\beta = 0.412$, $p < 0.001$) and perceived deception ($\beta = 0.334$, $p < 0.001$) significantly predict trust erosion. The model explains 62.7% of variance in brand trust erosion ($R^2 = 0.627$). Rural and lower-income consumers exhibit lower awareness but similar emotional responses. Over 91% support mandatory size-change labelling.

Practical Implications

The findings highlight the need for regulatory disclosure norms, targeted consumer education campaigns, and enhanced retail transparency practices.

Originality/Value

This is one of the first empirical state-level studies on shrinkflation in India, offering a replicable framework for analysing hidden inflationary strategies in emerging markets.

Keywords: Shrinkflation; Consumer Trust; Brand Loyalty; Inflation; Rural Consumers; FMCG; Consumer Policy; India

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1. Introduction

Shrinkflation is one of these economic tricks that are felt by a majority of people yet the majority of these people cannot name them. The concept is basic: a manufacturer just makes a product smaller or less of a certain item and the price remains the same, and that is the cost of the unit of the product becomes effectively higher. It has become a fallback option when there are increases in the cost of inputs or competitive pressures and it goes unnoticed exactly because customers are price conscious than they are package conscious.

The stakes of this practice are also extremely high in Chhattisgarh, a state in central India, with a predominately rural population, deep agricultural roots, and an economy still in the developing stage. What shrinkflation really does in this case, then, is to have to struggle with the concrete social and economic situation of the state.

The Chhattisgarh economy is based on agriculture, and the staple crop, as well as the primary source of food in the state, is rice (Khan and Chauhan, 2021; Shukla, 2021). A single change in food prices, regardless of whether they are increased or even decreased, can have severe impacts on the livelihoods and food security of the locals (Irawati et al., 2019). The Public Distribution System of the state is a critical aspect of the subsidized grain reaching needful families (Chhotray et al., 2020), and thus even the slightest decrease in the quantity or value of that distributed will have actual ripple effects on families who are already thinly stretched.

A large portion of the Chhattisgarh population is comprised of tribal communities. Most of them tend to be heavily dependent on natural resources, and are also faced by cumulative socio-economic pressures (Saxena & Ganveer, 2013). Their buying patterns can be very different than the general population and their differences can predispose them to the covert price rises of shrinkflation. The degree to which any consumer is able to identify and act upon shrinkflation also relies on their consciousness — which also differs significantly within the state.

The proposed study will serve to address a true research gap since it will investigate the real effect of shrinkflation in the state of Chhattisgarh by conducting a strict survey of 385 respondents. The idea is to generate work that is practically applicable, among policymakers who will establish regulatory guidelines, among retailers who will ponder over their behaviour, and among consumers who will attempt to make some sense of the situation with their purchasing power.

2. Literature Review

In order to study shrinkflation in Chhattisgarh, we must look at the general literature describing inflation process, consumer behavior, and market dynamics. Inflation is an age-old problem of governments and businesses across the globe (Shuaib et al., 2015). It is caused by commodity price shocks, policy amendments, and changes in the global economic conditions (Fund, 2012). These factors have to be understood before investing in particular region.

The retail market in India has been growing tremendously. Such development renders the examination of the elements shaping the consumer behavior crucial (Kumar et al., 2016). A particular example is the food prices that are highly volatile mainly because of the supply side shocks. Indian consumers are significantly affected by these price volatilities (Irawati et al., 2019). Scientists are still studying the effects of fluctuations in the prices of commodities on developing economies (Bhat et al., 2018). It is people in low and middle-income countries who bear the greatest burden of increasing food prices. A larger percentage of their budgets is on food, and most of them are net consumers as opposed to producers (Headey and Ruel, 2023; Combes and Meyimdjui, 2021; Dorward, 2012). Millions of people can be forced into poverty; this causes hunger, malnutrition and macro-economic instability due to price spikes (Headey and Fan, 2008).

A misleading pricing strategy is shrinkflation, which is a combination of shrink and inflation. Businesses downsize the product with the same price. It is effective because as consumers can easily see a difference in prices compared to quantity (Gourville and Koehler, 2004). The firms are able to maximize the revenue by reducing the amount as opposed to hiking the price and this is because the majority of people will not respond immediately. This is a practice that is based on price elasticity. In the case of comparatively inelastic demand, consumers will not reduce their purchases with only a slight change in price, so shrinkflation is a good alternative to an actual increase in price (Konieczny and Skrzypacz, 2005). There is one more layer created by behavioral economics: people experience losses more significantly than the same gains, thus a reduction in quantity is perceived as a more significant loss than a rise in price (Dopper et al., 2021).

In Chhattisgarh, rural consumers make the situation more complex due to supply-chain issues. There is a deficient infrastructure, scarce transport, and scattered population restrictions alternative choices and comparative information (Kumar & Babu, 2013). Rural consumers have a strong impact on the value they see in a product, and the type of product they purchase due to the influence of local retailers and shopkeepers (Chauhan, 2023). In this case, the information gap increases when such retailers are not aware of the industry standards (Asha and Joy, 2016).

Providing consumers with knowledge is the foundation of sound consumer policy (Howells, 2005). Awareness efforts can be used to teach people how to recognize shrinkflation and combat it. According to Jung et al. (2023), some manufacturers have acknowledged the confusion that results from disparate product sizes. As e-commerce has grown, consumers can now readily compare costs and monitor changes in supply (Cavallo, 2018).

Food price volatility's detrimental impacts on health were demonstrated during the worldwide food price crisis of 2007–2008 (Green et al., 2013). For many people in Chhattisgarh, forest produce is a significant source of income (Ratnakar and Sharma, 2022). When taken as a whole, these research streams show why shrinkflation in this state has to be thoroughly and empirically investigated.

3. Economic Factors and Consumer Behavior

A number of economic forces push manufacturers into shrinkflation; the increasing raw material prices, currency, and the competition in the retail industry are some of the contributing factors. Shrinkflation can take the form of an attractive alternative to a conspicuous rise in price when the absorbing the higher input price becomes prohibitively costly, because it does not reduce profit margins nor does it trigger the consumer backlash a price raise can cause (Smith, 2018).

There are differences in how consumers respond to shrinkflation. Customers' awareness of the issue, their sensitivity to prices, and their brand loyalty are all crucial to its success. Customers do not believe that the pack weight has decreased, but some believe they have been materially duped, leading them to switch to other products (Chakrabarti and Roy, 2007). Better consumer education can close this gap since more knowledgeable customers are able to hold businesses accountable for creating false claims and making discriminatory decisions.

These activities occur in the context of logistical agendas in rural Chhattisgarh, which include the dispersed population, weak road infrastructure, and connectivity. These factors reduce rural consumers' options and negotiating leverage (Chauhan, 2023). They typically rely on local shopkeepers for recommendations on what to buy, thus it is crucial that these retailers have a thorough understanding of the products and can clearly communicate prices (Asha and Joy, 2016).

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4. Retail and Supply Chain Effect.

At the intersection of shrinkflation's cause and impact are the retailers. They have strategic decisions that regulate the extent of customer influence since they operate as intermediaries between manufacturers and consumers (Romo & Digal, 2011). Some merchants absorb a portion of the cost burden, while others pass it on by increasing their pricing or claiming the reduced quantities supplied by producers. Due to the expansion of supermarkets and hypermarkets in India, the power dynamics in some industries have shifted, giving large modern retailers even more negotiating leverage with manufacturers (Aparna et al., 2020).

Big-box retailers may be better equipped to resist shrinkage or to compel suppliers to be transparent. When the standardization of product size and packaging that comes with contemporary retail is shown to impair the capacity to detect a drop in quantity, customer choice can be paradoxical.

The problem of squeeze out is not limited to shop shelves. When producers reduce their output, they frequently need to repackage, renegotiate with suppliers, and alter production methods. Both the supply chain's upstream and downstream segments are affected by the modifications. For a long time, Indian fast-moving consumer goods (FMCG) retailers have struggled to implement supply chain practices that would give them or their clients greater visibility into that shift (Sarma, 2000).

5. Policy Implications and Mitigation Strategies

In order to solve the shrinkflation problem, multiple approaches must be taken simultaneously. The government has a clear role to play: mandatory labeling that shows a product's net weight or volume and indicates whether that volume has increased or reduced would immediately give the consumer the information they need to make fair comparisons. Without that need, the businesses can make savings covertly without worrying too much about being discovered.

Instead of expecting that customers won't notice, the trade unions may establish precise guidelines for product size and labeling, which would encourage producers to be open and honest about changes. As consumers grow more sensitive to deception, this may be in the long-term best interests of certain businesses whose goals may include transparency.

The consumer education programs might be the most direct tool. People who understand what shrinkflation is and how to spot it are better equipped to respond to it by switching brands, filing complaints, or just making more economical purchases. There will be an effect from focused education initiatives in a state like Chhattisgarh, where underprivileged rural and tribal groups are exacerbated.

6. Research Framework

The impact of shrinkflation on Chhattisgarh customers is meticulously examined in this paper's study design. In addition, it mixes a mixed-methods empirical methodology with three theoretical perspectives: institutional economics, psychology of pricing perception, and consumer behavior studies. The study's inputs, procedures, analytical constructs, and conclusions will all be visualized using the framework, which will also make sure that all of the research's goals are connected to certain variables, tools, and analytical techniques.

6.1 Conceptual Framework

There are three theoretical foundations that support this investigation. Customers are far more sensitive to losses than to gains because of the former, which is Prospect Theory and Price Perception (Kahneman and Tversky, 1979; Gourville and Koehler, 2004). Shrinkflation exploits this imbalance by hiding the real price increase behind

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a less obvious decrease in quantity that won't be as strongly reacted to, at least not in the near future, rather than producing an apparent loss signal through an overt price increase.

The Consumer Trust and Brand Equity Theory is the second theory (Aaker, 1991; Cavallo, 2018). Feeling deceived by a brand might cause consumers to become suspicious of it, which damages the psychological bond they have formed with it. Once trust has been damaged, it is very hard to rebuild, and brand loyalty is likely to follow because switching is now inexpensive. The third theory is the Theory of Consumer Empowerment and Information Asymmetry (Mutyala et al., 2016; Wells, 2005). The best conditions for shrinkflation to occur are when consumers lack understanding and are gullible. The primary corrective factor, according to the research, is regulatory openness, or effective mandated disclosure requirements.

6.2 Theoretical Framework

The study's architecture is illustrated as follows: consumer knowledge and perception serve as a mediating variable between macroeconomic and firm-level shrinkflation channel factors and the final results at the individual, market, and policy levels.

▶ ANTECEDENTS (Drivers of Shrinkflation)	▶ MEDIATORS (Consumer Awareness & Perception)	▶ OUTCOMES (Consumer & Market Impact)
Macroeconomic Factors Rising input costs (raw materials, energy, packaging) Currency depreciation & import pressures Post-COVID supply chain disruptions Food commodity price volatility GST regime & taxation changes **Firm-Level Strategies** Profit margin preservation Competitive pricing pressure Packaging redesign & rebranding Price elasticity exploitation Stealth quantity reduction in FMCG	**Awareness Dimensions** Experiential awareness (noticing size changes) Conceptual awareness (knowing the term) Urban vs. rural awareness gap Education & income-mediated awareness **Perception & Attitude** Perceived fairness & value for money Sense of deception & betrayal Price sensitivity & loss aversion Brand reputation assessment **Moderating Variables** Education level, Income bracket, Area (urban/rural), Age & gender	**Consumer-Level Outcomes** Erosion of brand trust & loyalty Decline in purchasing satisfaction Brand switching behaviour Reduced household purchasing power Heightened price vigilance **Market & Policy Outcomes** Market efficiency distortion Distorted inflation measurement Demand for regulatory action Need for mandatory size-change labelling Disproportionate burden on rural & tribal households

Figure 1: Conceptual Research Framework — Antecedents, Mediators, and Outcomes of Shrinkflation in Chhattisgarh (Mixed-Methods Design, N = 385)

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6.3 Research Objectives and Corresponding Hypotheses

Five core research objectives guide this study, each paired with a null and alternate hypothesis, tested through specific statistical methods.

No.	Research Objective	Null Hypothesis (H_0)	Alternate Hypothesis (H_1)
RO1	To quantify the prevalence of shrinkflation across product categories in Chhattisgarh.	H_{01}: There is no significant difference in shrinkflation prevalence across product categories.	H_{11}: Shrinkflation prevalence varies significantly across product categories, with FMCG goods most affected.
RO2	To assess consumer awareness and perceptions of shrinkflation in Chhattisgarh.	H_{02}: Consumer awareness of shrinkflation does not differ across demographic groups.	H_{12}: Consumer awareness differs significantly across education levels, income groups, and urban/rural residence.
RO3	To determine the impact of shrinkflation on consumer purchasing decisions and brand loyalty.	H_{03}: Shrinkflation has no significant effect on consumer purchasing decisions and brand loyalty.	H_{13}: Shrinkflation significantly reduces brand loyalty and alters purchasing behaviour, especially for lower-income consumers.
RO4	To evaluate the economic consequences of shrinkflation on consumer welfare and market efficiency.	H_{04}: Shrinkflation does not significantly affect consumer welfare or market efficiency in Chhattisgarh.	H_{14}: Shrinkflation significantly erodes consumer purchasing power and distorts market price signals in Chhattisgarh.
RO5	To identify policy responses that can mitigate the negative impacts of shrinkflation on consumers.	H_{05}: Consumers do not perceive a need for government regulation or mandatory disclosure of shrinkflation.	H_{15}: A significant majority of consumers support government regulation and mandatory labelling as countermeasures against shrinkflation.

Table RF-1: Research Objectives and Corresponding Hypotheses

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6.4 Operationalisation of Variables

Four categories of variables are operationalised in the framework, each measured through specific questionnaire items and analysed using the appropriate statistical tools.

Variable Type	Variable Name	Measurement Instrument	Statistical Tool
Independent Variables	Shrinkflation awareness (experiential & conceptual); demographic variables	Questionnaire Sections A & B (Likert Scale 1–5)	Frequency analysis; Chi-Square test; ANOVA
Dependent Variables	Brand trust erosion; purchasing behaviour change; policy demand	Questionnaire Sections C, D & E (Likert Scale 1–5)	Multiple Regression; Descriptive Statistics
Moderating Variables	Education level; Income group; Urban/Rural residence; Age; Gender	Section A (Demographic Questionnaire)	Chi-Square; ANOVA; Regression (as controls)
Control Variables	Product category; geographic district; type of retailer (local vs. organised)	Multiple-response frequency items; open-ended responses	Descriptive analysis; Factor Analysis (PCA)

Table RF-2: Operationalisation of Variables in the Research Framework

6.5 Research Process Flow

The study was carried out in five sequential stages, each building directly on the last to maintain internal validity and ensure comprehensive coverage of the research questions.

Stage	Phase Name	Key Activities
I	**Problem Identification & Literature Review**	Identifying the research gap; reviewing shrinkflation, consumer behaviour, and inflation literature; formulating research objectives and hypotheses; defining theoretical framework anchors (Prospect Theory, Consumer Trust Theory, Information Asymmetry Theory).
II	**Instrument Design & Pilot Testing**	Developing the 5-section Likert-scale questionnaire; expert validation (content validity); pilot study with 30 respondents; reliability testing (Cronbach's $\alpha = 0.84$); revising and finalising the instrument.
III	**Primary Data Collection**	Stratified random sampling across 5 districts (Raipur, Bilaspur, Durg-Bhilai, Jagdalpur, Ambikapur); face-to-face and digital survey

		administration; N = 385 respondents (220 urban, 165 rural); data cleaning and verification; entry into SPSS v.25.
IV	**Statistical Analysis**	Descriptive statistics (mean, SD, frequency); reliability analysis (Cronbach's α); Chi-Square tests of independence; One-Way ANOVA; multiple regression analysis; factor analysis (PCA with Varimax rotation); urban-rural comparative analysis.
V	**Interpretation & Policy Recommendations**	Interpreting findings in light of the theoretical framework; testing hypotheses; discussing implications for consumers, businesses, and policymakers; formulating evidence-based policy recommendations; identifying limitations and future research directions.

Table RF-3: Five-Stage Research Process Flow

7. Research Methodology

7.1 Research Design

This study uses a mixed-methods design, combining quantitative and qualitative approaches to get a fuller picture of how shrinkflation affects consumers in Chhattisgarh. The quantitative side involves statistical analysis of primary survey data; the qualitative side draws on in-depth insights from open-ended survey responses and expert interviews. Using both methods together — triangulating across sources — helps ensure the findings are both statistically robust and grounded in real consumer experience.

7.2 Sample Size and Sampling Method

The sample size was calculated using Cochran's formula for an infinite population at a 95% confidence level with a 5% margin of error and an assumed proportion of 0.5 (which maximises variability, and thus the required sample size). The formula gives a minimum of 384.16, rounded up to 385 respondents.

$$n = Z^2 \times p(1-p) / e^2 = (1.96)^2 \times 0.5(0.5) / (0.05)^2 = 384.16 \approx 385$$

Stratified random sampling was used to ensure proportional representation of urban and rural respondents and different income groups across the major districts of Chhattisgarh — Raipur, Bilaspur, Durg- Bhilai, Jagdalpur, and Ambikapur. The final sample comprised 220 urban respondents (57.1%) and 165 rural respondents (42.9%).

7.3 Data Collection Instrument

The questionnaire was designed around five thematic sections: (A) Respondent Demographics, (B) Awareness of Shrinkflation, (C) Consumer Behavior, (D) Perceived Fairness and Trust, and (E) Policy and Retail Practice. Sections B through E used a five-point Likert scale (5 = Strongly Agree through 1 = Strongly Disagree). Before the main data collection, the questionnaire was pilot-tested with 30 respondents; Cronbach's Alpha came out at 0.84, indicating strong internal consistency.

7.4 Statistical Tools and Techniques

Analysis was conducted using SPSS version 25. The study employed six main techniques: descriptive statistics (frequencies, percentages, mean, and standard deviation) for demographic profiling and response distribution; reliability analysis (Cronbach's Alpha) to assess internal consistency; chi-square tests of independence to

examine associations between demographic variables and shrinkflation awareness; one-way ANOVA to compare mean responses across income and education groups; multiple regression analysis to identify the key predictors of consumer trust erosion; and factor analysis (Principal Component Analysis with Varimax rotation) to uncover underlying constructs in the data.

7.5 Research Objectives

The study is guided by five interrelated objectives: (1) to quantify how common shrinkflation is across different product categories in Chhattisgarh; (2) to assess consumer awareness and perceptions of the phenomenon; (3) to understand how shrinkflation affects purchasing decisions, brand loyalty, and overall satisfaction; (4) to evaluate its economic consequences for consumer welfare and market efficiency; and (5) to identify policy responses that could meaningfully reduce its impact.

8. Data Analysis and Findings

This chapter presents the full empirical analysis of data collected from 385 respondents across Chhattisgarh. All results are reported with appropriate statistical measures to support both rigor and interpretability.

8.1 Demographic Profile of Respondents

The sample spans a broad range of ages, genders, educational backgrounds, income levels, and geographic locations, as shown in Table 1.

Demographic Variable	Category	Frequency (n)	Percentage (%)
Age Group	18–25 years	96	24.9%
	26–35 years	112	29.1%
	36–45 years	88	22.9%
	46–55 years	58	15.1%
	Above 55 years	31	8.1%
Gender	Male	208	54.0%
	Female	172	44.7%
	Other	5	1.3%
Education Level	Primary	47	12.2%
	Secondary	98	25.5%

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	Graduate	164	42.6%
	Postgraduate	76	19.7%
Monthly Household Income	Below ₹10,000	89	23.1%
	₹10,000–₹25,000	126	32.7%
	₹25,001–₹50,000	114	29.6%
	Above ₹50,000	56	14.5%
Area of Residence	Urban	220	57.1%
	Rural	165	42.9%

Table 1: Demographic Profile of Respondents (N = 385)

The sample skews slightly male (54%) and urban (57.1%), with 26–35 year-olds forming the largest age cohort (29.1%). Graduates make up the largest education group (42.6%), and more than half the respondents (55.8%) earn below Rs. 25,000 per month, which reflects the state's predominantly lower-middle-income economic structure.

8.2 Descriptive Statistics: Likert Scale Responses

Table 2 summarises the descriptive statistics for all Likert-scale items across the five questionnaire sections. Means are on a scale of 1–5, with higher scores indicating stronger agreement.

Section / Item	Mean	Std. Dev.	% Agree/ Strongly Agree
SECTION B: AWARENESS OF SHRINKFLATION			
B1: Noticed size reduction without price drop	3.91	0.87	71.4%
B2: Aware of the term 'shrinkflation'	2.98	1.12	42.6%
B3: Companies should inform consumers about size changes	4.33	0.74	84.7%
SECTION C: CONSUMER BEHAVIOR			
C1: Feel cheated when size reduced but price maintained	4.21	0.81	79.2%

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C2: Stop buying products that reduce size without notice	3.64	0.99	61.8%
C3: Compare weight/quantity before purchase	3.42	1.07	54.3%
SECTION D: PERCEIVED FAIRNESS AND TRUST			
D1: Shrinkflation reduces trust in brands	4.08	0.88	75.6%
D2: Shrinkflation is a deceptive practice	4.19	0.82	78.4%
D3: Trust brands that maintain transparency	4.47	0.66	89.1%
SECTION E: POLICY AND RETAIL PRACTICE			
E1: Government should regulate product downsizing	4.28	0.79	82.1%
E2: Labels should show previous and current size clearly	4.51	0.63	91.2%
E3: Retailers should inform buyers about shrinkflation	4.39	0.71	86.5%

Table 2: Descriptive Statistics of Likert-Scale Items (N = 385)

The strongest responses were around transparency: 'Labels should show previous and current size clearly' (M = 4.51) and 'Trust brands that maintain transparency' (M = 4.47) topped the scale, making clear that consumers want and expect honesty from the companies they buy from. At the other end, awareness of the actual term 'shrinkflation' was the weakest response (M = 2.98) — most people have felt the effect but don't yet have the language for it.

8.3 Section-wise Frequency Distribution

8.3.1 Awareness of Shrinkflation

Response	B1: Size Reduction Noticed	B2: Aware of Term	B3: Companies Should Inform
Strongly Agree	112 (29.1%)	68 (17.7%)	186 (48.3%)
Agree	163 (42.3%)	96 (24.9%)	140 (36.4%)
Neutral	64 (16.6%)	103 (26.8%)	38 (9.9%)
Disagree	32 (8.3%)	84 (21.8%)	16 (4.2%)
Strongly Disagree	14 (3.6%)	34 (8.8%)	5 (1.3%)
Total	**385 (100%)**	**385 (100%)**	**385 (100%)**

Table 3: Frequency Distribution — Section B: Awareness of Shrinkflation

The contrast here is striking: 71.4% of respondents said they'd noticed products getting smaller without getting cheaper, yet only 42.6% knew the word 'shrinkflation.' Consumers are clearly experiencing the phenomenon —

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they just don't have a name for it, which limits their ability to talk about it or demand a response. Alongside this, 84.7% agreed that companies should be proactively upfront about any changes to product size.

8.3.2 Consumer Behavior Responses

Response	C1: Feel Cheated	C2: Stop Buying	C3: Compare Before Purchase
Strongly Agree	143 (37.1%)	86 (22.3%)	72 (18.7%)
Agree	162 (42.1%)	152 (39.5%)	137 (35.6%)
Neutral	52 (13.5%)	84 (21.8%)	112 (29.1%)
Disagree	20 (5.2%)	46 (11.9%)	48 (12.5%)
Strongly Disagree	8 (2.1%)	17 (4.4%)	16 (4.2%)
Total	**385 (100%)**	**385 (100%)**	**385 (100%)**

Table 4: Frequency Distribution — Section C: Consumer Behavior

The emotional response to shrinkflation is decidedly negative — 79.2% of people said they feel cheated when a product shrinks without a price adjustment. A meaningful share (61.8%) go further and stop buying products that downsize without warning. However, only 54.3% routinely compare weights or quantities before buying, which suggests there's real scope for awareness campaigns to make consumers more proactive shoppers.

8.3.3 Perceived Fairness and Trust

Response	D1: Trust Eroded	D2: Deceptive Practice	D3: Trust Transparent Brands
Strongly Agree	126 (32.7%)	141 (36.6%)	212 (55.1%)
Agree	165 (42.9%)	161 (41.8%)	131 (34.0%)
Neutral	58 (15.1%)	48 (12.5%)	29 (7.5%)
Disagree	26 (6.8%)	26 (6.8%)	10 (2.6%)
Strongly Disagree	10 (2.6%)	9 (2.3%)	3 (0.8%)
Total	**385 (100%)**	**385 (100%)**	**385 (100%)**

Table 5: Frequency Distribution — Section D: Perceived Fairness and Trust

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The trust data is sobering for brands that rely on shrinkflation as a quiet workaround. Three quarters of respondents (75.6%) said shrinkflation damages their trust in a brand, and 78.4% consider it outright deceptive. On the flip side, 89.1% said they actively trust brands that are transparent about their pricing and packaging. The business case for honesty is clear.

8.3.4 Policy and Retail Practice Preferences

Response	E1: Government Regulation	E2: Clear Labels	E3: Retailer Disclosure
Strongly Agree	152 (39.5%)	198 (51.4%)	168 (43.6%)
Agree	164 (42.6%)	153 (39.7%)	165 (42.9%)
Neutral	44 (11.4%)	24 (6.2%)	37 (9.6%)
Disagree	18 (4.7%)	8 (2.1%)	12 (3.1%)
Strongly Disagree	7 (1.8%)	2 (0.5%)	3 (0.8%)
Total	**385 (100%)**	**385 (100%)**	**385 (100%)**

Table 6: Frequency Distribution — Section E: Policy and Retail Practice

Consumer support for systemic change is overwhelming. 82.1% want the government to step in and regulate product downsizing; 91.2% support mandatory labeling that shows both the old and new size side by side; and 86.5% think retailers themselves should disclose shrinkflation to shoppers. These numbers make a strong case that the public is not just noticing the problem — they're actively asking for solutions.

8.4 Chi-Square Analysis: Awareness vs. Demographic Variables

Chi-square tests of independence were run to check whether shrinkflation awareness (B1 and B2) differed significantly across demographic groups.

Association Tested	Chi-Square (χ^2)	df	p-value	Interpretation
B1 Awareness vs. Area (Urban/Rural)	18.47	4	0.001**	Significant
B1 Awareness vs. Education Level	24.38	12	0.018*	Significant
B1 Awareness vs. Income Group	21.62	12	0.042*	Significant
B2 Term Awareness vs. Education Level	38.74	12	0.000***	Highly Significant

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B2 Term Awareness vs. Age Group	29.11	16	0.023*	Significant
B2 Term Awareness vs. Area (Urban/Rural)	32.58	4	0.000***	Highly Significant
C2 Brand Switching vs. Income Group	19.84	12	0.048*	Significant

Table 7: Chi-Square Test Results (* p<0.001, ** p<0.01, * p<0.05)**

Across the board, awareness of shrinkflation is closely tied to where people live, how educated they are, and how much they earn. Urban consumers and those with more education were far more likely to know the term 'shrinkflation' ($p < 0.001$). Brand-switching behavior was also significantly linked to income: lower-income respondents were more likely to change brands when confronted with product downsizing, which makes sense given how much more acutely they feel the pinch of hidden price increases.

8.5 One-Way ANOVA: Mean Response Differences Across Groups

One-way ANOVA was run to test whether mean Likert responses varied significantly across education levels and income groups.

Dependent Variable	Factor	F-statistic	p-value	Significance
B1: Noticed size reduction	Education Level	8.34	0.000	***
B2: Term Awareness	Education Level	22.47	0.000	***
C1: Feel Cheated	Income Group	5.62	0.001	**
C2: Brand Switching	Income Group	9.18	0.000	***
D1: Trust Erosion	Area (Urban/Rural)	4.83	0.028	*
E1: Government Regulation	Income Group	3.71	0.011	*
Composite Trust Score	Education Level	11.22	0.000	***

Table 8: One-Way ANOVA Results (* p<0.001, ** p<0.01, * p<0.05)**

Education level turned out to be the most powerful differentiator across almost all shrinkflation awareness and trust-related measures. The higher someone's education, the more aware they tend to be — and the stronger their trust erosion response when shrinkflation occurs. Income level drove behavioral differences (brand switching, calls for regulation), while the urban-rural divide mattered most for trust erosion scores. Taken together, these findings call for consumer education initiatives that are tailored to specific demographic segments, rather than generic campaigns.

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8.6 Multiple Regression Analysis: Predictors of Trust Erosion

A multiple regression analysis was run to identify what most strongly predicts consumer trust erosion due to shrinkflation, using D1 ('Shrinkflation reduces my trust in brands') as the dependent variable.

Predictor Variable	Beta (β)	Std. Error	t-value	p-value	Significance
B1: Noticed Size Reduction	0.412	0.063	6.54	0.000	***
B2: Aware of Term 'Shrinkflation'	0.218	0.058	3.76	0.000	***
C1: Feeling Cheated	0.334	0.071	4.70	0.000	***
C2: Brand Switching Behavior	0.187	0.069	2.71	0.007	**
C3: Compare Before Purchase	0.092	0.065	1.41	0.158	NS
Education Level (Control)	0.143	0.054	2.65	0.008	**
Income Group (Control)	0.116	0.061	1.90	0.058	NS
Area: Rural (vs. Urban)	0.098	0.072	1.36	0.175	NS
$R^2 = 0.627$ | Adjusted $R^2 = 0.619$ | $F(8, 376) = 79.31$ | $p < 0.001$ | Model Fit: Good					

Table 9: Multiple Regression Results — Dependent Variable: Trust Erosion (D1)

The regression model explains 62.7% of the variance in trust erosion, which is a strong result. The biggest driver is direct experience of size reduction (B1, $\beta = 0.412$): when people actually notice a product has gotten smaller, that experience itself erodes trust more than almost anything else. The emotional response of feeling cheated (C1, $\beta = 0.334$) is the second most powerful predictor. Formal knowledge of the term 'shrinkflation' (B2, $\beta = 0.218$) and subsequent brand-switching behavior (C2, $\beta = 0.187$) also contribute significantly. Education level plays a meaningful moderating role ($\beta = 0.143$, $p < 0.01$). In short: it's the lived experience and the emotional sting of it that drive trust erosion most powerfully, with conceptual awareness amplifying the effect.

8.7 Factor Analysis: Underlying Constructs

Principal Component Analysis (PCA) with Varimax rotation was applied to all 12 Likert items to identify the underlying constructs. The Kaiser-Meyer-Olkin measure came out at 0.812 (acceptable), and Bartlett's Test of Sphericity was highly significant ($\chi^2 = 1847.3$, $p < 0.001$), confirming the data was suitable for factor analysis.

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Factor	Items Loaded	Eigenvalue	% Variance Explained	Cronbach's α
Factor 1: Consumer Distrust & Deception Perception	B1, C1, D1, D2	3.84	32.0%	0.86
Factor 2: Regulatory & Disclosure Demand	B3, E1, E2, E3	2.41	20.1%	0.81
Factor 3: Active Consumer Vigilance	B2, C2, C3	1.73	14.4%	0.74
Factor 4: Brand Trust and Loyalty	D3, C2	1.12	9.3%	0.69
Total Variance Explained			**75.8%**	

Table 10: Factor Analysis Results (PCA with Varimax Rotation)

Four distinct constructs emerged from the factor analysis, together accounting for 75.8% of total variance. The dominant factor — 'Consumer Distrust & Deception Perception' — explains 32% of variance on its own, confirming that eroded trust and feelings of deception are the central psychological outcomes when consumers encounter shrinkflation. The second factor, 'Regulatory & Disclosure Demand,' captures how strongly consumers want institutional action. The third reflects 'Active Consumer Vigilance' — things like checking prices and switching brands. The fourth maps 'Brand Trust and Loyalty' dynamics.

8.8 Shrinkflation Prevalence by Product Category

Respondents were asked which product categories they'd personally noticed shrinkflation in (multiple selections allowed). The results are shown in Table 11.

Product Category	No. of Respondents	% of Total Sample
Snacks and Packaged Foods	284	73.8%
Biscuits and Cookies	271	70.4%
Beverages (Cold Drinks, Juices)	248	64.4%
Shampoo and Personal Care Products	212	55.1%
Detergents and Household Products	198	51.4%
Dairy Products (Butter, Cheese)	187	48.6%

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Cooking Oils and Ghee	176	45.7%
Tea and Coffee	154	40.0%
Bread and Bakery Items	132	34.3%
Other FMCG Products	98	25.5%

Table 11: Reported Shrinkflation Prevalence by Product Category (Multiple Response)

Snacks and packaged foods top the list (73.8%), closely followed by biscuits and cookies (70.4%) and beverages (64.4%). These are precisely the kinds of products people buy on autopilot — frequently, habitually, and without necessarily scrutinizing the label every time. That makes them ideal vehicles for shrinkflation from a manufacturer's perspective, and makes them particularly important categories for consumer education and regulatory attention.

8.9 Urban vs. Rural Comparison

Comparing key metrics between urban (n = 220) and rural (n = 165) respondents reveals some important disparities.

Metric	Urban (n=220)	Rural (n=165)	Difference	Significance
Noticed size reduction (B1 mean)	4.12	3.62	+0.50	$p < 0.001$
Aware of term 'shrinkflation' (B2 mean)	3.38	2.41	+0.97	$p < 0.001$
Feel cheated (C1 mean)	4.18	4.24	−0.06	NS
Brand switching (C2 mean)	3.71	3.55	+0.16	$p < 0.05$
Trust erosion (D1 mean)	4.14	3.99	+0.15	$p < 0.05$
Demand for government regulation (E1 mean)	4.31	4.23	+0.08	NS
Clear labeling demand (E2 mean)	4.54	4.47	+0.07	NS

Table 12: Urban vs. Rural Comparison of Key Metrics

Urban consumers are significantly more aware of shrinkflation — both in terms of noticing it (M = 4.12 vs. 3.62) and knowing the word for it (M = 3.38 vs. 2.41). But here's the thing: once shrinkflation is experienced, the emotional fallout is essentially the same regardless of where someone lives. Rural respondents felt just as cheated (and slightly more so, at M = 4.24 vs. 4.18). Both groups expressed near-identical levels of support for regulatory action and transparent labeling. The divide is in awareness, not in how much people care.

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8.10 Reliability and Validity Summary

Scale / Section	No. of Items	Cronbach's Alpha (α)	Interpretation
Section B: Awareness of Shrinkflation	3	0.76	Acceptable
Section C: Consumer Behavior	3	0.79	Acceptable
Section D: Perceived Fairness and Trust	3	0.83	Good
Section E: Policy and Retail Practice	3	0.81	Good
Overall Questionnaire (All 12 items)	12	0.84	Good

Table 13: Reliability Statistics (Cronbach's Alpha)

With an overall Cronbach's Alpha of 0.84, the instrument demonstrates solid internal consistency throughout. Every individual section cleared the 0.70 acceptability threshold, with the trust and policy sections scoring 'Good.' This validates the questionnaire as a reliable tool for capturing the multi-dimensional experience of shrinkflation.

9. Discussion of Findings

The empirical evidence of this research gives an account of a consistent and disturbing spectacle about the concept of shrinkflation and its effects on the consumers in Chattisgarh. It has several thematic strands. A significant disconnect between experience and official knowledges becomes an outstanding observation. Three out of every four respondents said they had observed shrinkages in product size without equivalent price changes, although less than a half could define the practice. The ramifications of this discrepancy are substantive: the lack of a shared lexicon stands in the way of collective mobilization, the mechanisms of complaints, and the ability to command regulatory intervention. The fact that consumers respond more to price than to quantity changes can be linked to the fact that Gourville and Koehler (2004) state that consumers pay closer attention to the changes in prices than to the change in the quantity when they assess a product or service in the market, which explains the strategic effectiveness of the concept of shrinkflation to producers.

Loss of trust amounts to a huge and proven loss. The regression analysis has shown that the direct experience of downsizing (B1, $\beta = 0.412$) is the single most significant predictor of reduced trust, with the emotional perception of being cheated (C1, $\beta = 0.334$) coming in second. These results are consistent with the loss aversion studies in the field of behavioral economics, where losses of value stimulate more negative reactions than price increases of the same size (Dopper et al., 2021). To brand managers this has a clear implication: shrinkflation could achieve a short-term win in terms of profit margins at the expense of a long-term destruction of the consumer relationships that are the foundation of a brand equity.

The rural and lower-income consumers are found to be disproportionately vulnerable. Both ANOVA and chi-square show that rural participants have significantly less awareness of shrinkflation, although their emotional distress is just the same as that of urban participants. The lack of ability to define or label the phenomenon does not lessen the experience of being fooled. Since Chhattisgarh has a large rural population and the Public

Distribution System plays a significant role (Chhotray et al., 2020), this result requires immediate specific educational activities in the tribal and rural constituencies.

The urgent need of the policy action is clear. Government intervention in downsizing the products is approved by almost 82.1 percent of the respondents, most of them are in favor of labeling downsizing of products with mandatory labels (91.2 percent) and most of them are in favor of retailers reporting it proactively (86.5 percent) which are indicative of strong societal demand of institutional solutions. This sentiment is in line with consumer protection frameworks promoted by Mutyala et al. (2016) and Saini et al. (2020), that consumer protection regulation must be strict against the perpetrators of false packaging in India.

Another aspect of focus is on the fact that the shrinkflation is concentrated in snacks, biscuit and beverages. These products are essential necessities to the poorer families. The shrinkflation of all these high-frequency categories breeds slow but steady erosion of the purchasing power, which can be invisible in single transactions but can become very sharp in the long run. This development goes beyond abstract economic theory in the case of families that run close to food-security line.

10. Conclusion

Shrinkflation is a matter of significance in Chhattisgarh. Based on the reactions of 385 respondents in urban and rural areas, the research has shown that shrinkflation is not only prevalent, but it is also highly experienced, and it is widely disliked even by those who have not yet developed a single nomenclature used to describe it. The statistics prove that shrinkflation undermines consumer confidence, interrupts consumer buying patterns, and skews the impact of lower-income and rural households. According to the regression equation ($R^2 = .627$), the two factors, direct experience and the feeling of deception, are the most significant predictors of trust erosion, and the perception of the deception has a significant moderating effect on the impact of educational attainment.

Implications on policy are clear. To begin with, there should be compulsory disclosure policies where producers are forced to label any changes in weights or quantities of products on the packages. Second, an educational campaign initiated by the consumers particularly targeting the rural and tribal groups in Chhattisgarh should ensure that shrinkflation is sensitized and addressed. Third, to the agencies like the Bureau of Indian Standards and consumer courts, adequate resources and power to probe and punish systematic product downsizing need to be provided. Fourth, the retailers are supposed to have historical weight records thus allowing consumers to make longitudinal comparison.

The study contributes to the limited existing body of Indian literature on the subject of shrinkflation and provides a reproducible study design, which can be used to conduct comparable studies in other states. The further study must be capable of tracking changes in the patterns of shrinkflation over the long-term, particularly after the policy is introduced, and the consumer reactions in various states of India are to be compared in order to determine whether the experience and reaction to the phenomenon depends on regional differences in culture, income, and retail infrastructure.

11. Limitations and Future Research directions.

Although the study does contain a significant empirical contribution, some limitations should be viewed with trepidation. The 385 respondents sample is statistically sufficient but is only a one-time situation. Longitudinal design to follow the change in attitudes prior to and after certain episodes of shrinkflation would provide more valuable causal information.

The use of self-reported perceptions presents the usual risk of social desirability effect and memory distortion. To substantially reinforce the evidentiary base, the survey should be supplemented by objective product audit: comparing the past and present weights of the products all over the retail shelves.

The targeted study of Chhattisgarh provides insight but reduces the extrapolation. The conditions in states with a different economic appearance, retail environment, and consumer culture might be different. Future studies also ought to focus on intersectionality of shrinkflation and tribal food security, the impact of digital platforms and online consumer communities on reactions to downsizing of products and assess the effect of particular regulatory interventions on consumer behavior in practice.

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