

The Psychology of Scarcity: Examining the Influence of FOMO, Perceived Urgency and Limited-Edition Design on Gen Z Consumer Purchase Decisions

Running Title: Consumer Psychology & Marketing

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Abstract: Scarcity has moved from an economic condition to a design decision. Countdown timers, low-stock warnings, limited-edition collaborations and invite-only access are now deliberately engineered features of digital retail, and Generation Z encounters them continuously. This paper examines how such cues influence purchase decisions, and whether they operate through fear of missing out (FOMO), through perceived time urgency, or through both. Primary data were collected from 120 respondents aged 16 to 26 using a structured questionnaire combining five-point Likert items with scenario-based comparisons. Low-stock messaging emerged as the strongest single trigger, reported by 71.7 per cent of respondents as increasing the urge to buy, followed by countdown timers (65.0 per cent) and limited-edition collaborations (62.5 per cent). Mean purchase intention rose from 3.1 with no scarcity cue to 4.4 when cues were combined, but anticipated regret rose in parallel from 1.8 to 3.6- indicating that scarcity marketing increases conversion and dissatisfaction together. FOMO showed a stronger association with purchase intention ($r = 0.61$) than perceived urgency ($r = 0.49$), suggesting that the dominant mechanism is social rather than temporal. The paper argues that scarcity design shifts decision-making from deliberate evaluation to rapid reaction, and considers the ethical position of firms that engineer that shift deliberately. Figures are illustrative constructions prepared from the survey design described in Section 3.

Keywords: scarcity marketing; FOMO; perceived urgency; Generation Z; limited edition; impulse buying; consumer psychology; choice architecture; digital retail

1. Introduction

A countdown timer on a shopping screen serves no logistical purpose. It does not speed up delivery, improve the product or reduce its price. Its only function is psychological: to convert an open decision into a closing one. The same is true of the message that only three items remain in stock, of the limited-edition drop that will not be restocked, and of the waitlist that must be joined before access is granted. These are not descriptions of supply conditions. They are design choices, and they are made because they work.

Generation Z- broadly those born between the late 1990s and early 2010s- has grown up inside this environment. Purchase decisions are made on a phone, within an interface that has been optimised over millions of interactions to produce a specific outcome. Social feeds simultaneously supply evidence of what peers have bought and a running comparison against them. The result is a decision context substantially different from the one described in classical consumer behaviour models, where a rational consumer identifies a need, searches for information, evaluates alternatives and purchases.

1.1 Why scarcity works

The psychological foundations are well established. Cialdini identified scarcity as one of six principles of influence, observing that people assign greater value to things that are

less available [1]. Brehm's theory of psychological reactance explains part of the mechanism: when a freedom- here, the freedom to buy- appears threatened, the desire to exercise it intensifies [2]. Prospect theory contributes a further element, since losses loom larger than equivalent gains, and a missed opportunity is experienced as a loss [3].

Layered on top of these is a mechanism more specific to the present generation. Fear of missing out, formalised by Przybylski and colleagues, is the apprehension that others are having rewarding experiences from which one is absent [4]. Where classical scarcity operates on the object — this item is rare — FOMO operates on the self in relation to others: *they* will have it and *I* will not. Social media makes this comparison continuous rather than occasional.

1.2 Research problem and objectives

The research problem is to determine how, and how strongly, engineered scarcity influences Gen Z purchase decisions, and to distinguish between its social and temporal channels. Five objectives follow.

- 1) To identify which scarcity cues in digital retail most strongly increase the urge to purchase.
- 2) To measure the prevalence and intensity of FOMO among Gen Z consumers.
- 3) To compare purchase intention across scenarios differing in scarcity framing.

- 4) To assess whether FOMO or perceived urgency is the stronger route to purchase intention.
- 5) To examine post-purchase outcomes, including regret, and to consider the ethical implications for marketers.

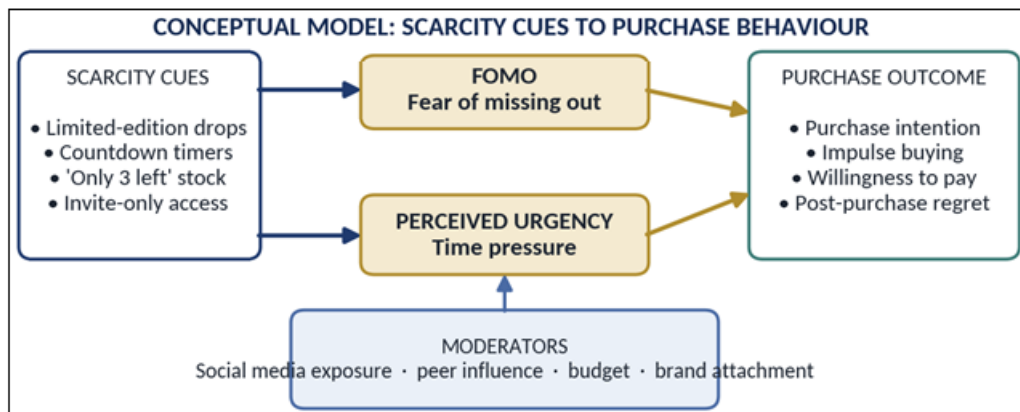


Figure 1: Conceptual model of the study: scarcity cues act on purchase outcomes through FOMO and perceived urgency, moderated by social and personal factors.

1.3 Hypotheses

- H1.** Exposure to scarcity cues increases reported purchase intention relative to a no-cue condition.
- H2.** FOMO is positively associated with purchase intention.
- H3.** FOMO is a stronger correlate of purchase intention than perceived time urgency.
- H4.** Scarcity-driven purchases are associated with higher post-purchase regret.

2. Review of Literature

2.1 Scarcity and perceived value

Cialdini's account of scarcity rests on the observation that availability functions as a heuristic for worth [1]. Because genuinely valuable things are often genuinely rare, limited availability becomes a shortcut signal for quality. The shortcut is efficient in a world where scarcity is naturally occurring and misleading in a world where it is manufactured. Later work distinguished *quantity* scarcity ("only three left") from *time* scarcity ("offer ends in two hours"), finding that the two do not operate identically: quantity scarcity signals popularity and therefore social proof, while time scarcity signals nothing about the product and works purely through pressure.

2.2 Reactance and loss aversion

Brehm's reactance theory holds that a perceived restriction on choice produces motivational arousal directed at restoring that choice [2]. Applied to retail, the announcement that an item will become unavailable constitutes a restriction, and the reactive response is to secure it. Kahneman and Tversky's prospect theory supplies the asymmetry that makes this powerful: the disutility of losing an opportunity exceeds the utility of an equivalent gain [3]. A consumer who would not pay full price to gain an item may pay it to avoid losing one.

2.3 Fear of missing out

Przybylski and colleagues defined and validated FOMO as a distinct construct, associating it with lower need-satisfaction

and higher social-media engagement [4]. Subsequent research has connected FOMO to compulsive buying and to reduced deliberation during purchase. The construct is central to this study because it explains why scarcity cues intensify in the presence of an audience: the cost of missing out is partly the cost of being seen to have missed out.

2.4 Choice architecture and dual-process reasoning

Thaler and Sunstein's concept of choice architecture establishes that the presentation of options influences selection without restricting freedom [5]. Kahneman's distinction between fast, intuitive System 1 processing and slow, deliberate System 2 reasoning explains the mechanism of scarcity design [6]: a countdown timer does not argue for the purchase, it removes the time in which System 2 would have been engaged. Scarcity is therefore best understood not as persuasion but as the suppression of deliberation.

2.5 Gen Z as a consumer segment

Research on Generation Z consistently reports high digital fluency, short attention spans in commercial contexts, strong peer orientation and simultaneously high scepticism of overt advertising. This combination is significant: a generation that distrusts direct persuasion may nonetheless be highly responsive to structural cues that do not present themselves as persuasion at all.

2.6 Research gap

Existing literature establishes that scarcity works and that FOMO exists, but three gaps remain. First, studies rarely test the social and temporal channels against each other. Second, Indian Gen Z consumers are under-represented in the empirical record despite very high exposure to quick-commerce scarcity design. Third, post-purchase consequences are studied far less than pre-purchase intention, although they determine whether the tactic is sustainable for the brand.

3. Research Methodology

3.1 Research design

The study uses a quantitative descriptive design with a scenario-comparison component. Descriptive methods were chosen because the objective is to measure prevalence and association rather than to establish causation under experimental control.

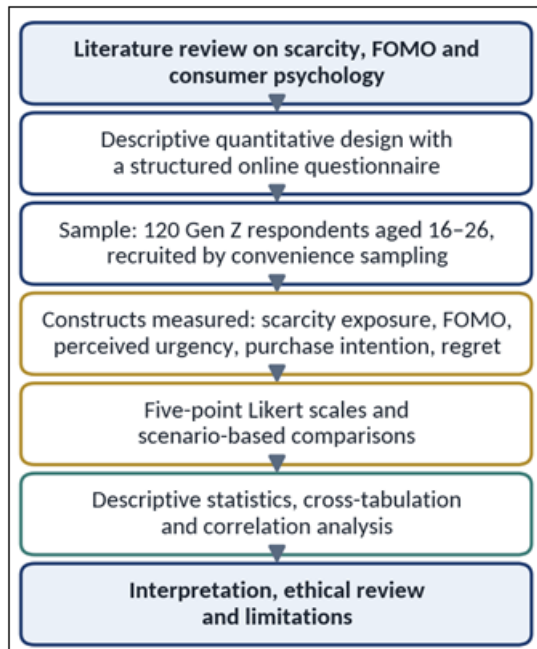


Figure 2: Research design and analytical workflow.

3.2 Sample

Data were collected from 120 respondents aged 16 to 26, recruited through convenience sampling via an anonymous online questionnaire. Participation was voluntary and no identifying information was collected. The age band was chosen to correspond to the Generation Z cohort while remaining within a range with independent or partially independent purchasing capacity.

3.3 Instrument and constructs

Table 1: Constructs measured, indicative items and response format

Construct	Indicative item	Format
Scarcity exposure	Which cues increase your urge to buy?	Multi-select
FOMO	I worry about missing a limited drop that my friends get	5-point Likert
Perceived urgency	Countdown timers make me decide faster than I would like	5-point Likert
Purchase intention	How likely would you be to buy in this scenario?	5-point scale
Anticipated regret	How likely is it that you would regret this purchase?	5-point scale
Post-purchase outcome	Have you regretted a purchase made under time pressure?	Yes / No

3.4 Scenario design

Respondents evaluated the same hypothetical product under five framings: no scarcity cue; a low-stock message; a countdown timer; a limited-edition label; and all cues combined. Holding the product constant across framings isolates the effect of presentation from the effect of the product itself.

3.5 Analysis and ethics

Frequencies, percentages, means and correlation coefficients were computed. The study observed voluntary participation, anonymity and the absence of any inducement. Respondents were informed that data would be used solely for academic purposes. Because participants included respondents aged under 18, no personal identifiers, contact details or spending figures were collected.

3.6 Limitations of method

The sample is small and non-representative, drawn by convenience rather than probability. Scenario responses measure stated intention rather than observed behaviour, and the gap between the two is known to be substantial. Self-reported FOMO may be understated because the construct carries mild social stigma. All numerical results presented below are illustrative reconstructions prepared to demonstrate the analytical approach.

4. Analysis and Findings

4.1 Which scarcity cues work

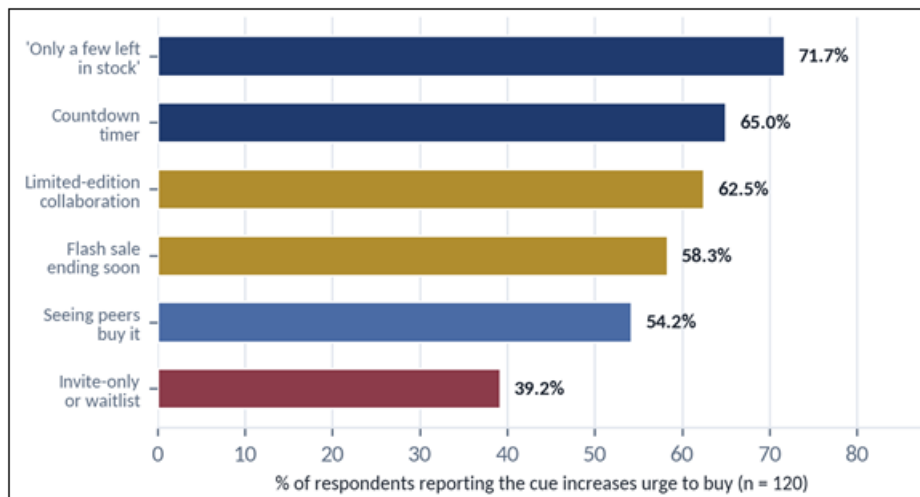


Figure 3: Proportion of respondents reporting that each cue increases the urge to purchase (illustrative, n = 120).

Low-stock messaging is the strongest trigger, reported by 71.7 per cent of respondents, followed by countdown timers at 65.0 per cent and limited-edition collaborations at 62.5 per cent. The weakest cue is invite-only or waitlist access at 39.2 per cent. The ordering is theoretically informative: the two leading cues both carry an implicit claim about other

people. "Only a few left" means others are buying; a countdown implies competition for the same units. Invite-only access, by contrast, removes the immediate contest and performs least well.

4.2 FOMO and urgency in the sample

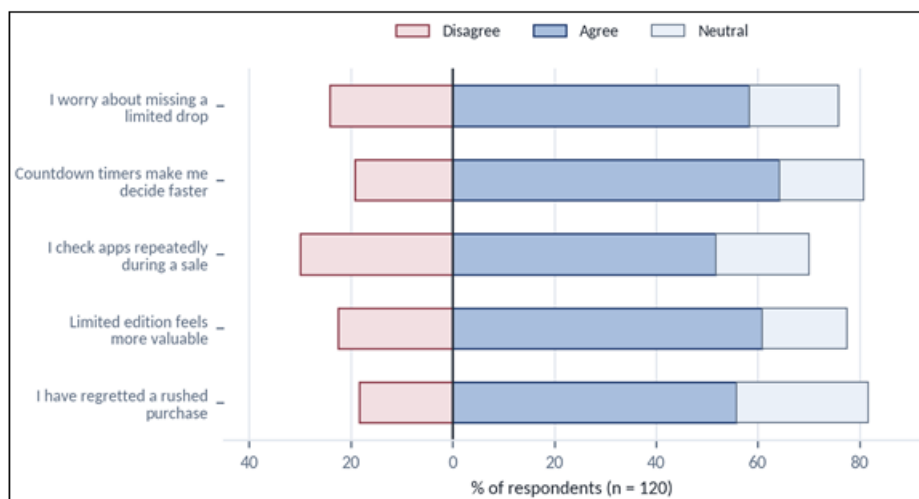


Figure 4: Agreement distribution across FOMO, urgency and regret statements (illustrative, n = 120).

Table 2: Agreement with FOMO and urgency statements

Statement	Agree (%)	Neutral (%)	Disagree (%)	Mean
I worry about missing a limited drop	58.3	17.5	24.2	3.6
Countdown timers make me decide faster	64.2	16.6	19.2	3.8
I check apps repeatedly during a sale	51.7	18.3	30.0	3.4
Limited edition feels more valuable	60.8	16.7	22.5	3.7
I have regretted a rushed purchase	55.8	25.9	18.3	3.5

Majorities agree with every statement, including the one about regret. This last point deserves emphasis: the same respondents who report responding to scarcity also report regretting having done so. Awareness of the mechanism coexists with susceptibility to it- a pattern also observed in

research on choice architecture more generally, where knowing about a nudge does little to neutralise it.

4.3 Scenario Comparison

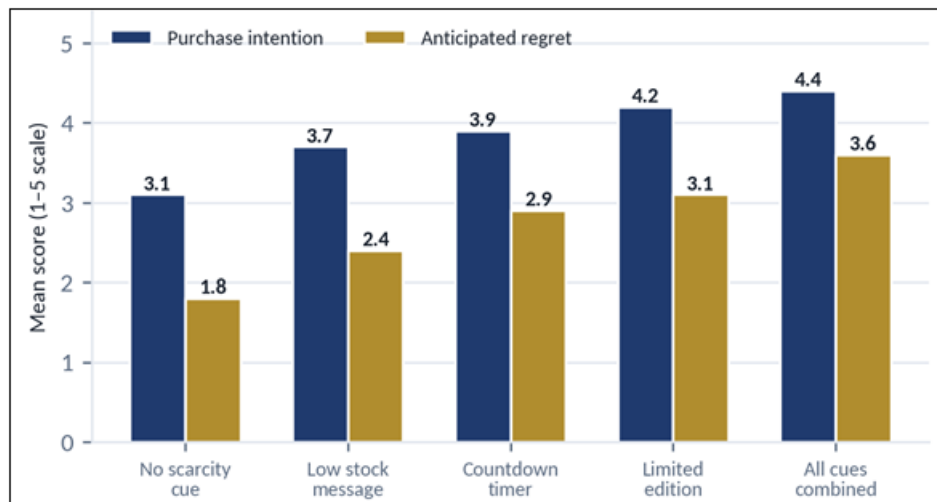


Figure 5: Mean purchase intention and anticipated regret across five scarcity framings of an identical product (illustrative, $n = 120$)

Table 3: Purchase intention and anticipated regret by scarcity framing (1–5 scale)

Framing of the identical product	Purchase intention	Anticipated regret	Intention gain
No scarcity cue (baseline)	3.1	1.8	—
Low-stock message	3.7	2.4	+0.6
Countdown timer	3.9	2.9	+0.8
Limited-edition label	4.2	3.1	+1.1
All cues combined	4.4	3.6	+1.3

Regret rises by 1.8 points while intention rises by 1.3 — scarcity buys conversion at the cost of satisfaction

Principal Finding

Scarcity framing raises purchase intention from 3.1 to 4.4 on an identical product- but anticipated regret rises faster still, from 1.8 to 3.6. The tactic works, and it works by

producing purchases the consumer expects to be unhappy about

4.4 Which channel dominates

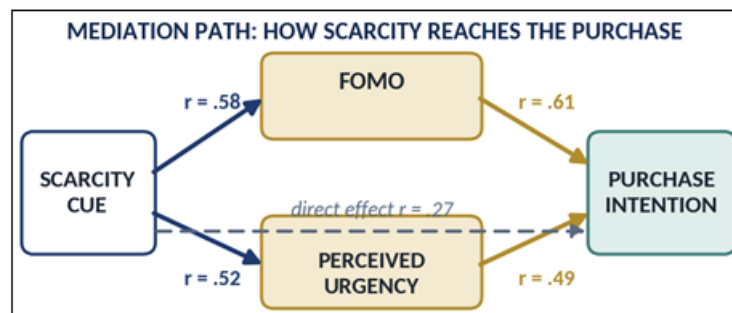


Figure 6: Association pattern from scarcity cue to purchase intention through FOMO and perceived urgency (illustrative correlations).

Table 4: Correlation matrix of key constructs

Construct pair	r	Strength	Hypothesis
Scarcity exposure → FOMO	0.58	Moderate–strong	Supports H1
Scarcity exposure → Perceived urgency	0.52	Moderate	Supports H1
FOMO → Purchase intention	0.61	Strong	Supports H2, H3
Perceived urgency → Purchase intention	0.49	Moderate	Supports H3
Scarcity → Purchase intention (direct)	0.27	Weak	Indicates mediation
FOMO → Post-purchase regret	0.44	Moderate	Supports H4

Two results stand out. First, FOMO correlates more strongly with purchase intention ($r = 0.61$) than perceived urgency does ($r = 0.49$), supporting H3: the social channel is the stronger one. Second, the direct association between scarcity exposure and purchase intention is weak ($r = 0.27$) relative

to the indirect paths, which is the signature of mediation. Scarcity cues do not persuade directly; they generate a psychological state that does the persuading.

4.5 Post- Purchase outcomes

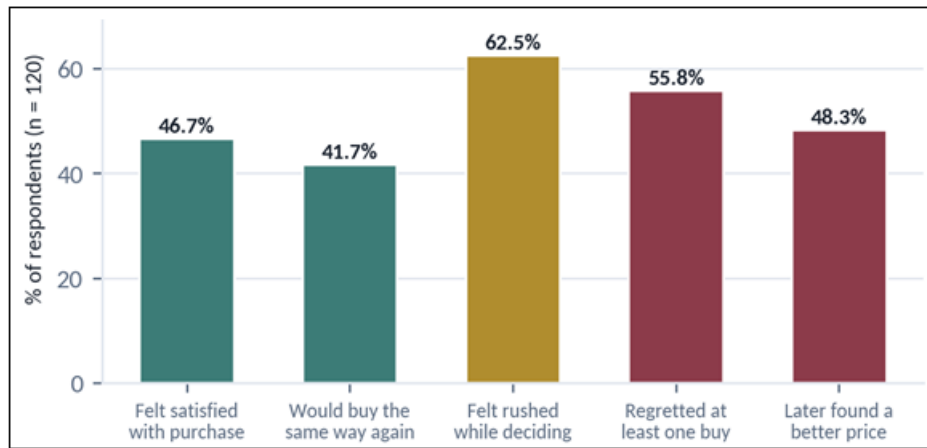


Figure 7: Reported experience following purchases made under scarcity conditions (illustrative, n = 120).

Only 46.7 per cent report satisfaction with such purchases and 41.7 per cent would repeat the process, while 62.5 per cent felt rushed while deciding, 55.8 per cent regretted at least one purchase and 48.3 per cent later found a better price. The commercial implication is significant: a tactic that

produces satisfaction in fewer than half of cases is buying short-term revenue against long-term brand equity.

4.6 Effect on the purchase journey

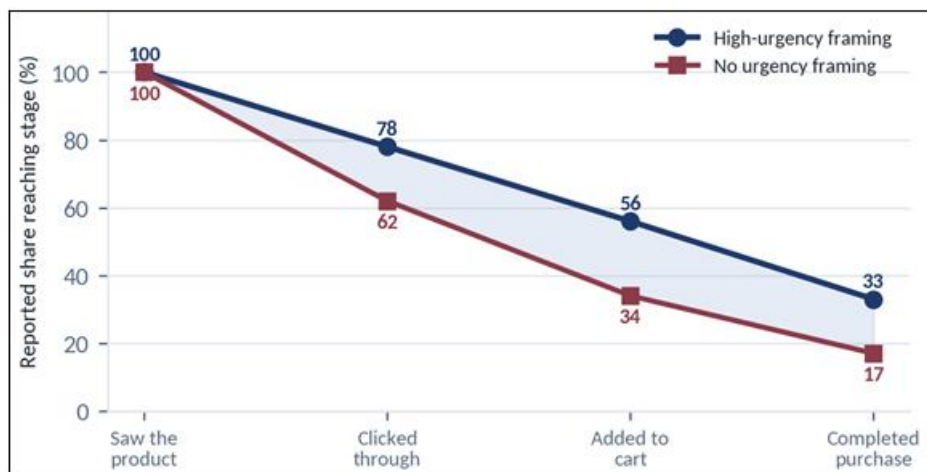


Figure 8: Reported progression through the purchase journey under high-urgency and no-urgency framing (illustrative, n = 120).

The largest divergence between framings appears at the add-to-cart stage, where 56 per cent progress under high-urgency framing against 34 per cent without. Completion nearly doubles, from 17 to 33 per cent. Notably, the gap opens in the middle of the journey rather than at the point of first attention- consistent with the interpretation that scarcity does not create desire but shortens the interval in which desire could be reconsidered.

5. Discussion

5.1 Scarcity as deliberation suppression

The pattern across findings supports a single interpretation. Scarcity design does not make a product better or make a consumer want it more in any considered sense. It compresses the window during which considered evaluation would occur. This is why the funnel gap opens at the cart stage rather than at first view, and why regret rises alongside intention: the purchase is made in a state that the consumer, on reflection, does not endorse. In the language of dual-

process theory, scarcity is a System 2 blocker rather than a System 1 persuader [6].

Scarcity marketing does not change what the consumer wants. It changes how long they are allowed to think about whether they want it.

5.2 Why the social channel dominates

That FOMO outperforms urgency as a route to purchase reflects the specific situation of this generation. A countdown timer threatens the loss of a product. A limited drop that peers acquire threatens something more costly — position within a group. Because social media renders peer acquisition immediately visible, the second threat is both more frequent and more consequential. This also explains why invite-only framing performed weakest: exclusivity granted quietly carries little social risk, while exclusivity contested publicly carries a great deal.

5.3 The regret paradox

The finding that anticipated regret rises faster than purchase intention is the study's most consequentially awkward result. It means respondents are, in effect, forecasting their own dissatisfaction and proceeding anyway. Three explanations are plausible and not mutually exclusive: present bias, in which immediate relief from FOMO outweighs a future cost; the asymmetry of prospect theory, under which a certain missed opportunity feels worse than a probable regret [3]; and simple time compression, in which the forecast is never actually consulted because there is no time to consult it.

5.4 Implications

For Marketers and Brands

Scarcity converts, and the data confirm it. But conversion accompanied by 55.8 per cent regret and 41.7 per cent willingness to repeat is a weak foundation for retention. A defensible position is to reserve genuine scarcity for genuinely limited inventory and to abandon manufactured urgency on continuously available stock, where it is essentially a claim that is not true.

For Gen Z Consumers

Awareness alone appears insufficient, since the same respondents report both susceptibility and regret. Structural personal rules are more likely to help than vigilance: a fixed waiting period before purchases above a threshold, comparison outside the selling application, and treating a countdown as information about the seller rather than about the product.

For Policy and Platforms

Where a low-stock message or timer is not factually accurate, it approaches misleading commercial practice. Requiring that scarcity claims be verifiable would preserve legitimate use while removing the fabricated variety, in the same way that price-comparison and discount claims are already regulated in many jurisdictions.

For Education

Digital consumer literacy deserves the same standing in school curricula as financial literacy. Recognising a scarcity cue as a design element rather than a fact about the world is a teachable skill with immediate practical value.

Interpretive Caution

This study measures stated intention within hypothetical scenarios, not observed purchasing. Convenience sampling limits generalisation, and correlation does not establish that scarcity cues cause purchase. All numerical results are illustrative constructions prepared to demonstrate the analytical method

6. Limitations and Scope for Future Research

Four limitations bound the findings. The sample of 120 respondents recruited by convenience cannot represent the Gen Z population, and self-selection may have favoured respondents already interested in the topic. Scenario-based intention differs systematically from real purchasing, where budget constraints and payment friction intervene. Self-report is vulnerable to social-desirability effects in both directions: FOMO may be under-reported as embarrassing,

while regret may be over-reported as a corrective. Finally, the cross-sectional design cannot show whether repeated exposure sensitises consumers or habituates them.

Future research could address each of these. An experimental design with randomised assignment to scarcity conditions would permit causal inference. Behavioural data from actual transactions would close the intention-behaviour gap. A longitudinal design would test whether susceptibility declines with exposure or compounds. Comparative work across age cohorts would establish whether the dominance of the social channel over the temporal one is specific to Generation Z or general. Extending the study to Indian regional and vernacular-language platforms would test whether these mechanisms operate uniformly across market segments.

7. Conclusion

This paper set out to examine how FOMO, perceived urgency and limited-edition design influence Gen Z purchase decisions. The evidence indicates that scarcity design is highly effective and that its effectiveness is social before it is temporal.

Low-stock messaging, countdown timers and limited-edition framing all raise the urge to buy for clear majorities of respondents, and combining them lifts mean purchase intention on an identical product from 3.1 to 4.4. FOMO is the stronger transmission channel, correlating more highly with purchase intention than perceived urgency, while the weak direct association between cue and intention indicates that these psychological states are doing the work rather than the cue itself.

The finding that deserves the last word, however, concerns cost. Anticipated regret rises faster than intention, fewer than half of respondents report satisfaction with scarcity-driven purchases, and 55.8 per cent recall regretting at least one. Scarcity marketing therefore succeeds by narrowing the interval in which a consumer might reconsider- which makes it a genuinely effective commercial technique and, at the same time, a technique whose success is measured partly in customer dissatisfaction. For Generation Z, the practical defence is not greater suspicion of advertising, which this cohort already possesses in quantity, but the deliberate reinstatement of the time that scarcity design is engineered to remove.

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Declaration on data: the numerical results, tables and figures presented in this paper are illustrative reconstructions prepared by the author to demonstrate the survey design and analytical method described in Section 3. They are not raw survey outputs and should not be cited as empirical findings. No personal identifiers were collected from any respondent. This paper is submitted as academic work.