Consumer Perception towards Artificial Intelligence in Online Shopping: A Study with Reference to Generation Z in Mysuru City

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***Abstract*—Artificial intelligence (AI) has moved from the periphery to the operating core of e-commerce. Recommendation engines, conversational chatbots, dynamic pricing algorithms, visual search and virtual try-on tools now mediate a substantial share of what an online shopper sees, compares and eventually buys. Generation Z, having entered adulthood alongside these technologies, is the cohort most continuously exposed to them, and its perceptions are therefore a leading indicator of how AI-mediated retail will be received. This study examines consumer perception towards AI in online shopping among Generation Z consumers in Mysuru city, Karnataka. Primary data were collected from 200 respondents aged 18 to 29 through a structured questionnaire administered on a purposive basis, and respondents were classified into Low, Moderate and High perception categories on the basis of a composite perception score. Pearson's chi-square test of independence was applied to examine the association between perception level and five respondent characteristics, supported by Cramer's V as a measure of effect size, adjusted standardised residuals for cell-level interpretation, and a linear-by-linear association test for ordinal trend. None of the four demographic variables tested — age, gender, educational qualification and occupation — bears a statistically significant association with perception towards AI at the five per cent level. Online shopping frequency, by contrast, is significantly associated with perception level (chi-square = 16.987, df = 6, p = .009, Cramer's V = .206), and the association follows a clear monotonic trend (M-squared = 15.923, df = 1, p < .001; Spearman's rho = .282). Among weekly shoppers, 60.5 per cent record high perception, against 25.6 per cent among occasional shoppers. The study concludes that within Generation Z, behavioural exposure rather than demographic position is the operative differentiator of AI perception, and that engagement frequency is a more defensible basis for segmentation than conventional demographic descriptors.**

***Index Terms*—Artificial Intelligence, Chi-square Test, Consumer Perception, E-commerce, Generation Z, Online Shopping.**

I. INTRODUCTION

The retail transaction has been quietly re-engineered over the past decade. Where an online purchase once involved a consumer navigating a static catalogue, it now involves a continuous exchange between the consumer and a set of machine-learning systems that observe, infer and intervene. Product recommendation engines rank what appears on the landing page. Conversational agents handle first-line customer service. Dynamic pricing algorithms adjust the displayed price against demand, competitor movement and inferred willingness to pay. Visual search allows a photograph to substitute for a search string, and augmented-reality try-on tools allow apparel and cosmetics to be assessed without physical contact. None of these is presented to the consumer as artificial intelligence; each is presented simply as a feature of the platform. The consumer's relationship with AI in online shopping is therefore unusual in that it is simultaneously intensive and largely unannounced.

India provides a particularly consequential setting for studying this relationship. The country's e-commerce market has expanded on the back of low-cost data, near-universal smartphone penetration and a unified digital payments infrastructure, and this expansion has not been confined to metropolitan centres. Tier-II and tier-III cities now account for a growing share of order volume, which means that the AI systems deployed by

national platforms are being encountered by consumers whose purchasing contexts, income profiles and digital histories differ materially from those of the metropolitan users on whom much of the existing research is based.

Generation Z — broadly, those born between 1997 and 2012 — occupies a distinctive position in this landscape. Members of this cohort did not migrate to digital commerce from an earlier offline habit; they formed their consumption habits inside it. Their first independent purchases were in many cases made on platforms that were already algorithmically curated. This produces a cohort for whom AI mediation is not a novelty to be evaluated against a remembered alternative, but simply the ambient condition of shopping. Whether that condition is perceived as helpful, intrusive, trustworthy or opaque is a question with direct bearing on how retail platforms should design and disclose their AI capabilities.

Mysuru, the setting for this study, is a tier-II city in southern Karnataka with a substantial student and young-professional population, an established information-technology and services presence, and a consumer base that is neither metropolitan nor rural in character. It therefore offers a useful vantage point on a segment of the Indian market that is significant in aggregate but under-represented in the empirical literature.

A. Statement of the Problem

The prevailing assumption in much of the marketing literature and in industry practice is that consumer response to technology varies systematically along demographic lines — that younger consumers, more educated consumers or male consumers will differ predictably in their receptiveness. This assumption underwrites a good deal of segmentation practice. It has, however, been tested chiefly across generational cohorts rather than within them. If Generation Z is genuinely characterised by a shared baseline of digital fluency, it is not obvious that demographic variation within the cohort should produce meaningful variation in perception towards AI. The alternative possibility — that differences within the cohort are driven by behavioural exposure rather than demographic position — has received comparatively little empirical attention, particularly in the Indian tier-II context.

B. Significance of the Study

The study contributes on three counts. Theoretically, it tests whether demographic stratification retains explanatory power within a digitally native cohort, a question with implications for how the technology acceptance literature treats individual difference variables. Practically, it offers e-commerce firms an evidence-based view of whether demographic segmentation of Gen Z is likely to repay the investment it requires. Contextually, it extends the empirical base on AI perception into an Indian tier-II urban setting, where the great majority of comparable work has been conducted in European, Latin American or Indian metropolitan samples.

II. REVIEW OF LITERATURE

Three recent empirical studies bear directly on the questions addressed here. Each examines Generation Z specifically, each employs a structural modelling approach on a primary dataset, and together they establish the theoretical expectation against which the present findings are assessed.

A. Exposure, Usage and Knowledge as Antecedents

Bunea, Corbos, Misu, Triculescu and Trifu [1], working with a sample of 1,128 Generation Z respondents, adapted the Technology Acceptance Model [2] to the specific context of AI-enabled online shopping. Their principal methodological contribution was to introduce three antecedent constructs — exposure to AI, usage of AI and knowledge about AI — upstream of the two classical parameters of perceived usefulness and perceived ease of use. Data were analysed using partial least squares structural equation modelling together with importance-performance analysis. The authors reported significant direct effects of exposure, usage and knowledge on both perceived usefulness and perceived ease of use, and established that these in turn shaped purchase intentions. Mediation analysis confirmed that perceived usefulness and perceived ease of use carry the effect of the three antecedents through to intention, leading the authors to conclude that greater familiarity with AI systematically improves the disposition with which Gen Z consumers approach AI-enabled shopping. The study is directly relevant here because it isolates exposure as an antecedent variable in its own right rather than treating it as a demographic correlate.

B. AI Interaction, Brand Trust and Purchasing

Guerra-Tamez, Kraul Flores, Serna-Mendiburu, Chavelas Robles and Ibarra Cortes [3] examined 224 Mexican Generation Z consumers across the fashion, technology, beauty and education product categories, using partial least squares structural equation modelling to trace the path from AI interaction factors through brand trust to purchasing decisions. The authors modelled three interaction factors — AI exposure, attitude toward AI and AI accuracy perception — and found all three to significantly enhance brand trust, with AI exposure returning a substantial standardised coefficient. Brand trust in turn predicted purchasing decisions, and flow experience was established as a partial mediator of that relationship. The authors defined AI exposure explicitly as the frequency and extent of an individual's interaction with AI in daily life, a definition that maps closely onto the behavioural frequency measure employed in the present study. Their finding that frequency of interaction is a significant antecedent of trust provides the closest available theoretical parallel to the association reported below.

C. Attitude and Usefulness in Fashion E-commerce

Ruiz-Vinals, Pretel-Jimenez, Del Olmo Arriaga and Miro Perez [4] surveyed 210 university students aged 18 to 25 in Madrid and Barcelona to examine how AI influences online purchase intention in the fashion sector, using an AI-enabled styling device as the reference technology. The results indicated that perceived quality, attitude towards AI and perceived usefulness each exert a positive influence on purchase intention. The authors concluded that consumer acceptance of AI-powered retail solutions rests on perceptions of usefulness and quality rather than on the presence of the technology as such. Of particular relevance to the present study is the composition of their sample: a demographically narrow group of young university students nonetheless produced meaningful variance on the attitudinal constructs, which suggests that the sources of that variance lie outside conventional demographic descriptors.

D. Research Gap

Read together, the three studies converge on a common proposition: that exposure to, familiarity with, and interaction frequency with AI are the operative determinants of how Generation Z perceives AI-enabled commerce. What none of them does is test this proposition against demographic alternatives within a single cohort. Bunea and colleagues [1] model exposure but do not contrast it with demographic predictors. Guerra-Tamez and colleagues [3] establish exposure as an antecedent of trust without examining whether age, gender, education or occupation might account for the same variance. Ruiz-Vinals and colleagues [4] work with a sample too demographically narrow to permit the comparison. Further, all three studies were conducted in European or Latin American settings. No comparable study appears to have been conducted in an Indian tier-II urban context, and none has directly pitted behavioural exposure against demographic position as competing explanations of perception within Generation Z. The present study is designed to address that gap.

III. OBJECTIVES OF THE STUDY

1. To profile the demographic characteristics and online shopping behaviour of Generation Z consumers in Mysuru city.
2. To assess the level of awareness of artificial intelligence in online shopping among Generation Z consumers.
3. To examine the association between selected demographic variables — age, gender, educational qualification and occupation — and consumer perception towards artificial intelligence in online shopping.
4. To examine the association between online shopping frequency and consumer perception towards artificial intelligence in online shopping.
5. To offer suggestions to e-commerce firms on the basis of the findings.

IV. HYPOTHESES OF THE STUDY

The following null hypotheses were framed and tested at the five per cent level of significance.

H01: There is no significant association between age and consumer perception towards AI in online shopping.

H02: There is no significant association between gender and consumer perception towards AI in online shopping.

H03: There is no significant association between educational qualification and consumer perception towards AI in online shopping.

H04: There is no significant association between occupation and consumer perception towards AI in online shopping.

H05: There is no significant association between online shopping frequency and consumer perception towards AI in online shopping.

V. RESEARCH METHODOLOGY

A. Nature and Sources of Data

The study is empirical and descriptive in design and is based primarily on data collected from Generation Z consumers residing in Mysuru city. Secondary data drawn from peer-reviewed journal articles, industry reports and published statistical sources were used to construct the conceptual background and to interpret the results.

B. Population and Sample

The population comprised Generation Z consumers in Mysuru city who had made at least one online purchase. A sample of 200 respondents in the age band of 18 to 29 years was selected using purposive sampling [5], with attention to representation across urban, semi-urban and rural residential locations within the Mysuru area and across the principal occupational and educational categories present in the cohort.

C. Instrument

Data were collected through a structured questionnaire comprising three sections. The first captured demographic particulars, the second captured online shopping behaviour and self-reported awareness of AI in online shopping, and the third captured perception towards AI in online shopping across the principal application areas — personalised recommendation, chatbot-based service, search and discovery, pricing, and data handling. Responses in the third section were recorded on a five-point Likert scale ranging from strongly disagree to strongly agree.

D. Construction of the Perception Variable

Individual item responses in the perception section were summed to yield a composite perception score for each respondent. Respondents were then classified into three perception categories — Low, Moderate and High — on the basis of their composite score. This categorisation yielded 27 respondents in the Low category, 90 in the Moderate category and 83 in the High category. The trichotomised perception variable serves as the dependent variable throughout the analysis.

E. Tools of Analysis

Descriptive statistics in the form of frequencies and percentages were used to profile the sample. Pearson's chi-square test of independence was applied to test each of the five null hypotheses, this being the appropriate test where both the dependent variable and the explanatory variable are categorical and the observations are independent [6]. Three supplementary procedures were employed. Cramer's V [7] was computed as a measure of the strength of association, since the chi-square statistic alone is sensitive to sample size and does not indicate effect magnitude. Adjusted standardised residuals were computed for any significant contingency table in order to identify the specific cells driving the association; values exceeding 1.96 in absolute terms indicate cells contributing significantly at the five per cent level. Finally, because both online shopping frequency and perception level are ordinal, the linear-by-linear association test was applied to establish whether the association follows a monotonic trend rather than an unordered pattern, and Spearman's rank-order correlation was computed alongside it.

F. Treatment of Sparse Categories

Three respondents selected the gender category 'Other / prefer not to say'. Retaining this category in the contingency table produced three cells with expected frequencies below five, representing 33.3 per cent of cells and violating the condition that no more than 20 per cent of cells should have expected counts below five [8]. The gender analysis was therefore conducted on the 197 respondents identifying as male or female, and the three excluded responses are reported separately in the descriptive profile. This treatment is noted explicitly rather than passed over, since the exclusion is a methodological decision rather than a data limitation.

VI. DATA ANALYSIS AND INTERPRETATION

A. Demographic Profile of Respondents

TABLE I Demographic Profile of Respondents (N = 200)

Variable	Category	Freq.	%
Gender	Male	96	48.0
	Female	101	50.5
	Other / prefer not to say	3	1.5
Age (years)	18 – 20	48	24.0
	21 – 23	69	34.5
	24 – 26	51	25.5
	27 – 29	32	16.0
Education	PUC / 12th standard	25	12.5
	Undergraduate	83	41.5
	Postgraduate	73	36.5
	Professional / other	19	9.5
Occupation	Student	83	41.5
	Private employee	52	26.0
	Government employee	15	7.5
	Self-employed / business	31	15.5
	Other	19	9.5
Income (monthly)	No personal income	61	30.5
	Below Rs. 20,000	39	19.5
	Rs. 20,001 – 40,000	47	23.5
	Rs. 40,001 – 60,000	31	15.5
	Above Rs. 60,000	22	11.0
Residence	Urban Mysuru	128	64.0
	Semi-urban	47	23.5
	Rural	25	12.5

Source: Primary data.

The sample is close to evenly divided by gender, with 48.0 per cent male and 50.5 per cent female respondents. Age is concentrated in the 21 to 23 band, which accounts for 34.5 per cent of respondents, with the 18 to 20 and 24 to 26 bands contributing 24.0 and 25.5 per cent respectively. Educationally the sample skews towards higher qualifications, with undergraduates and postgraduates together constituting 78.0 per cent. Students form the largest occupational group at 41.5 per cent, followed by private employees at 26.0 per cent. Nearly a third of respondents report no personal income, which is consistent with the large student presence, while 26.5 per cent report monthly income above Rs. 40,000. Just under two-thirds reside in urban Mysuru, with the remainder distributed across semi-urban and rural locations. The profile is thus broadly representative of the urban and peri-urban Gen Z population of a southern Indian tier-II city.

B. Online Shopping Behaviour and AI Awareness

TABLE II Online Shopping Frequency and Awareness of AI (N = 200)

Variable	Category	Freq.	%
Online shopping frequency	Weekly	38	19.0
	2 – 3 times a month	67	33.5
	Once a month	52	26.0
	Occasionally	43	21.5
Awareness of AI in online shopping	Highly aware	53	26.5
	Moderately aware	89	44.5
	Slightly aware	42	21.0
	Not aware	16	8.0

Source: Primary data.

Online purchasing is a regular rather than occasional activity for most respondents. Over half — 52.5 per cent — shop online at least two to three times a month,

and 19.0 per cent do so weekly. Only 21.5 per cent describe their purchasing as occasional. On awareness, 71.0 per cent of respondents describe themselves as highly or moderately aware of AI in online shopping, while 8.0 per cent report no awareness at all. Two observations follow. First, awareness within this cohort is high but not universal, and roughly three respondents in ten remain at the slight-or-none end of the scale. Second, and more importantly for what follows, self-reported awareness is a claim about knowledge, whereas shopping frequency is a record of behaviour; the analysis below establishes that the latter is what differentiates perception.

C. Overall Perception towards AI

TABLE IIIDistribution of Respondents by Perception Level (N = 200)

Perception level	Frequency	Per cent
Low	27	13.5
Moderate	90	45.0
High	83	41.5
Total	200	100.0

Source: Primary data.

Perception towards AI in online shopping is predominantly favourable. A combined 86.5 per cent of respondents fall in the Moderate or High categories, with only 13.5 per cent recording low perception. The distribution is nonetheless not uniformly enthusiastic: high perception is recorded by 41.5 per cent, meaning that a clear majority hold a moderate rather than strongly positive view.

D. Age and Perception towards AI

TABLE IVAge and Perception Level — Observed Frequencies

Age (years)	Low	Mod.	High	Total
18 – 20	8	24	16	48
21 – 23	7	30	32	69
24 – 26	6	21	24	51
27 – 29	6	15	11	32
Total	27	90	83	200

Source: Primary data. Chi-square = 4.130, df = 6, p = .659, Cramer's V = .102.

The computed chi-square value of 4.130 falls well short of the critical value of 12.592 at six degrees of freedom, and the associated probability of .659 is far above the .05 threshold. The null hypothesis H01 is accepted. Age within the Generation Z band bears no significant association with perception towards AI in online shopping. Cramer's V of .102 confirms that whatever variation exists is negligible in magnitude. The row proportions bear this out: the share recording high perception ranges only from 33.3 per cent in the 18 to 20 band to 47.1 per cent in the 24 to 26 band, a spread well within sampling variation for groups of this size.

E. Gender and Perception towards AI

TABLE V Gender and Perception Level — Observed Frequencies

Gender	Low	Mod.	High	Total
Male	14	42	40	96
Female	12	47	42	101
Total	26	89	82	197

Source: Primary data. Chi-square = 0.357, df = 2, p = .837, Cramer's V = .043. Three respondents in the 'Other / prefer not to say' category are excluded; see Section V(F).

The chi-square value of 0.357 against a critical value of 5.991 at two degrees of freedom yields a probability of .837. The null hypothesis H02 is accepted. Gender is not significantly associated with perception towards AI in online shopping. The effect size of .043 is the smallest recorded across all five tests, indicating an almost complete absence of association. High perception is recorded by 41.7 per cent of male and 41.6 per cent of female respondents — a difference of one-tenth of a percentage point. On this evidence the gendered technology-attitude gap frequently reported in older populations does not manifest within this cohort.

F. Educational Qualification and Perception

TABLE VI Educational Qualification and Perception Level

Qualification	Low	Mod.	High	Total
PUC / 12th standard	6	13	6	25
Undergraduate	11	39	33	83
Postgraduate	7	30	36	73

Qualification	Low	Mod.	High	Total
Professional / other	3	8	8	19
Total	27	90	83	200

Source: Primary data. Chi-square = 6.556, df = 6, p = .364, Cramer's V = .128.

The chi-square value of 6.556 at six degrees of freedom yields a probability of .364, and the null hypothesis H03 is accepted. Educational qualification is not significantly associated with perception towards AI in online shopping. Cramer's V of .128 is the largest recorded among the four demographic variables, and the direction of the pattern is worth noting even though it does not attain significance: high perception rises from 24.0 per cent among those with PUC-level qualification to 49.3 per cent among postgraduates. This gradient is suggestive but the test does not permit an inference of association, and it should be treated as a candidate for examination on a larger sample rather than as a finding. Two cells in this table carry expected frequencies below five, though at 16.7 per cent of cells this remains within the acceptable limit.

G. Occupation and Perception towards AI

TABLE VII Occupation and Perception Level — Observed Frequencies

Occupation	Low	Mod.	High	Total
Student	11	38	34	83
Private employee	6	22	24	52
Government employee	3	8	4	15
Self-employed / business	4	13	14	31
Other	3	9	7	19
Total	27	90	83	200

Source: Primary data. Chi-square = 2.390, df = 8, p = .967, Cramer's V = .077.

The chi-square value of 2.390 at eight degrees of freedom yields a probability of .967, the highest recorded in this study, and the null hypothesis H04 is accepted. Occupation bears no significant association with perception towards AI in online shopping. The observed frequencies track the expected frequencies closely across every occupational group. Three cells carry expected counts below five, all within the government employee row, which reflects the small size of that group rather than any distributive anomaly; the result should be read with that limitation in view, though the magnitude of the probability leaves little doubt about the conclusion.

H. Online Shopping Frequency and Perception

TABLE VIII Shopping Frequency and Perception Level — Observed Frequencies

Shopping frequency	Low	Mod.	High	Total
Weekly	2	13	23	38
2 – 3 times a month	6	29	32	67
Once a month	8	27	17	52
Occasionally	11	21	11	43
Total	27	90	83	200

Source: Primary data. Chi-square = 16.987, df = 6, p = .009, Cramer's V = .206. Linear-by-linear association M-squared = 15.923, df = 1, p < .001. Spearman's rho = .282, p < .001. Minimum expected count = 5.13.

The computed chi-square value of 16.987 exceeds the critical value of 12.592 at six degrees of freedom, and the associated probability of .009 is below the .05 threshold. The null hypothesis H05 is rejected. There is a statistically significant association between online shopping frequency and perception towards AI in online shopping. Cramer's V of .206 indicates a small-to-moderate association — modest in absolute terms, but approximately double the largest effect recorded among the four demographic variables and, unlike those, statistically reliable. The table satisfies all distributional requirements for the test, with no expected count falling below five.

The linear-by-linear association test confirms that the relationship is not merely one of unordered difference but follows a monotonic trend, with M-squared of 15.923 at one degree of freedom returning a probability below .001. Spearman's rank-order correlation of .282 corroborates this. The direction is unambiguous: as shopping frequency rises, perception towards AI improves.

TABLE IX Shopping Frequency and Perception Level — Row Percentages

Shopping frequency	Low (%)	Mod. (%)	High (%)
Weekly	5.3	34.2	60.5
2 – 3 times a month	9.0	43.3	47.8
Once a month	15.4	51.9	32.7
Occasionally	25.6	48.8	25.6

Source: Primary data. Rows sum to 100 per cent.

The gradient is visible in every column. High perception falls monotonically from 60.5 per cent among weekly shoppers to 25.6 per cent among occasional shoppers, a decline of 34.9 percentage points. Low perception moves in the opposite direction with equal regularity, rising from 5.3 per cent to 25.6 per cent. Among weekly shoppers, high perception outnumbers low perception by more than eleven to one; among occasional shoppers the two categories are exactly balanced.

TABLE X Adjusted Standardised Residuals — Frequency and Perception

Shopping frequency	Low	Moderate	High
Weekly	-1.65	-1.49	+2.64
2 – 3 times a month	-1.33	-0.35	+1.28
Once a month	+0.46	+1.17	-1.50
Occasionally	+2.62	+0.57	-2.39

Source: Computed from primary data. Residuals exceeding 1.96 in absolute value indicate cells contributing significantly at the five per cent level.

The residual analysis locates the association precisely. Three cells breach the 1.96 threshold, and all three lie at the extremes of the frequency scale. Weekly shoppers are significantly over-represented in the high perception category (+2.64). Occasional shoppers are significantly over-represented in the low perception category (+2.62) and significantly under-represented in the high perception category (-2.39). The two intermediate frequency groups contribute no significant residual in any cell. The association is therefore driven by the contrast between habitual and infrequent online shoppers rather than by a uniform effect operating across all frequency levels — a distinction that would be invisible from the chi-square statistic alone.

I. Summary of Hypothesis Testing

The consolidated results of the five chi-square tests are presented in Table XI.

TABLE XI Consolidated Results of Chi-square Tests

Hypothesis	Variable	Chi-square	df	p-value	Cramer's V	Decision
H01	Age	4.130	6	.659	.102	Accepted
H02	Gender	0.357	2	.837	.043	Accepted
H03	Educational qualification	6.556	6	.364	.128	Accepted
H04	Occupation	2.390	8	.967	.077	Accepted
H05	Online shopping frequency	16.987	6	.009	.206	Rejected

Source: Computed from primary data. Decision refers to the null hypothesis at the five per cent level of significance. H02 computed on n = 197.

VII. MAJOR FINDINGS

1. Online shopping is a regular activity for the majority of Gen Z respondents in Mysuru, with 52.5 per cent purchasing at least two to three times a month and 19.0 per cent purchasing weekly.
2. Awareness of AI in online shopping is high but incomplete. While 71.0 per cent of respondents

describe themselves as highly or moderately aware, 29.0 per cent report only slight awareness or none at all.

3. Perception towards AI is predominantly favourable, with 86.5 per cent of respondents recording moderate or high perception and only 13.5 per cent recording low perception.
4. Age is not significantly associated with perception towards AI within the Generation Z band ($p = .659$).
5. Gender is not significantly associated with perception towards AI ($p = .837$). Male and female respondents record high perception at 41.7 and 41.6 per cent respectively.
6. Educational qualification is not significantly associated with perception towards AI ($p = .364$), although a non-significant upward gradient from PUC to postgraduate level is observed.
7. Occupation is not significantly associated with perception towards AI ($p = .967$), the weakest association tested.
8. Online shopping frequency is significantly associated with perception towards AI ($p = .009$, Cramer's $V = .206$), and the association follows a significant monotonic trend ($p < .001$).
9. The frequency effect is concentrated at the extremes. Weekly shoppers are significantly over-represented in the high perception category, and occasional shoppers are significantly over-represented in the low category and under-represented in the high category.
10. Taken together, the results indicate that behavioural exposure rather than demographic position differentiates perception towards AI within Generation Z.

VIII. DISCUSSION

The pattern of results — four demographic variables returning null associations and a single behavioural variable returning a significant one — is unusually clean, and it aligns closely with the theoretical position established in the reviewed literature.

The significant association between shopping frequency and perception corroborates the central proposition of Bunea and colleagues [1], who identified exposure to AI as a direct antecedent of both perceived usefulness and perceived ease of use in a Gen Z sample of 1,128. Shopping frequency in the present study functions as a behavioural proxy for the exposure construct those authors modelled attitudinally: a respondent who transacts online weekly encounters recommendation engines, chatbots and algorithmic search several times more often than one who transacts occasionally, and accumulates correspondingly more evidence on which to form a view. That the resulting perception is more favourable rather than less is consistent with their finding that familiarity improves disposition.

The result also parallels Guerra-Tamez and colleagues [3], whose definition of AI exposure as the frequency and extent of interaction with AI in daily life maps almost directly onto the measure used here. Their finding that exposure significantly enhances brand trust, which in turn drives purchasing decisions, suggests a mechanism for the association observed in Mysuru: repeated exposure to AI-mediated retail generates familiarity, familiarity supports trust, and trust registers as favourable perception. The present study cannot test that causal sequence, since its design is cross-sectional and its measures categorical, but the observed association is what that mechanism would predict.

The null demographic findings warrant separate comment, because a non-significant result is easily dismissed as an absence of finding when it may be substantive. The consistency of the pattern argues for the latter reading. Four variables, tested independently, all return probabilities well above the threshold — .659, .837, .364 and .967 — with effect sizes between .043 and .128. This is not a case of one marginal result; it is a uniform absence of association across every demographic descriptor available in the dataset. The most plausible interpretation is that Generation Z, having formed its consumption habits inside an algorithmically mediated retail environment, possesses a shared baseline of digital fluency that overrides the demographic differentiation observable in older populations. The gender result is particularly striking in this regard: a difference of one-tenth of a percentage point in high perception between male and female respondents effectively eliminates the gendered technology-attitude gap as an explanatory factor within this cohort.

This reading finds indirect support in Ruiz-Vinals and colleagues [4], whose sample of 210 university students aged 18 to 25 was demographically narrow yet produced meaningful variance on attitude towards

AI, perceived usefulness and perceived quality. If demographic descriptors accounted for perception, a sample that homogeneous should have produced little variance to model. That it did not suggests the sources of variance lie elsewhere — in exposure, usage and experience — which is precisely what the present study finds when both classes of variable are tested against each other on the same sample.

Two qualifications should temper the interpretation. First, the direction of the frequency-perception relationship cannot be established from these data. Frequent shopping may generate favourable perception through familiarity, or favourable perception towards AI may encourage more frequent shopping. Both mechanisms are plausible and they are not mutually exclusive; a longitudinal or experimental design would be required to separate them. Second, the education variable, while non-significant, displays a gradient sufficiently regular to merit re-examination on a larger sample. A 25.3 percentage-point difference in high perception between PUC-qualified and postgraduate respondents is not trivial in substantive terms even though the present sample cannot establish it as reliable.

IX. SUGGESTIONS AND IMPLICATIONS

A. For E-commerce Firms

Demographic segmentation of Generation Z for the purpose of AI-related communication is unlikely to repay the investment it requires. Age, gender, education and occupation each fail to differentiate perception in this sample, and a segmentation scheme built on variables that do not discriminate will produce distinctions without a difference. Firms should instead segment on engagement frequency, which does discriminate and which platforms already capture as a matter of course in their transaction logs.

The residual analysis indicates where intervention would be most productive. Occasional shoppers are the group significantly over-represented in the low perception category, and they are also the group with the least accumulated experience of AI-mediated retail. Onboarding and re-engagement flows targeted at this group — explaining what recommendation systems do, how data is used, and what the consumer gains — address the population where perception is weakest and where the scope for movement is greatest. Conversely, weekly shoppers already hold favourable perceptions and represent a natural cohort for the introduction of more advanced AI features such as conversational commerce or visual search.

Given that 29.0 per cent of respondents report only slight awareness or none, transparency in AI disclosure represents an underused lever. Platforms typically present AI capabilities as invisible infrastructure. Making them visible and explicable is likely to serve firms better than leaving them unremarked, particularly among the low-frequency segment where unfamiliarity and unfavourable perception coincide.

B. For Policy Makers

The finding that perception improves with exposure carries a regulatory implication. If consumers form favourable views of AI systems primarily through repeated use rather than through informed evaluation, the resulting favourability may reflect habituation as much as considered assessment. Consumer protection frameworks governing algorithmic pricing, personalised recommendation and the use of behavioural data should not treat high consumer acceptance as evidence of informed consent. Disclosure norms requiring platforms to indicate when AI is materially shaping what a consumer sees or pays would strengthen the informational basis of that acceptance.

C. For Future Research

The causal ambiguity in the frequency-perception relationship is the most obvious candidate for further work, and a longitudinal design tracking perception as shopping frequency changes would resolve it. The education gradient merits re-testing on a sample large enough to detect an effect of the observed magnitude. Extending the design to include a comparison cohort from an older generation would establish whether the demographic homogeneity documented here is specific to Generation Z or characteristic of the wider population under conditions of high AI penetration.

X. LIMITATIONS OF THE STUDY

The study is confined to Generation Z consumers in Mysuru city, and the findings should be generalised to other tier-II cities or to metropolitan populations only with appropriate caution. The sample of 200 respondents was drawn purposively rather than

through probability sampling, which limits statistical generalisability to the wider population. The cross-sectional design permits the identification of association but not of causal direction. Perception was measured through self-report and is therefore subject to social desirability bias, particularly on a topic where respondents may perceive technological enthusiasm as the expected response. The trichotomisation of the composite perception score into Low, Moderate and High categories, while necessary for the chi-square procedure, discards information contained in the continuous score; a study employing ordinal logistic regression on the underlying scores would extract more from the same data. Finally, the three respondents in the 'Other / prefer not to say' gender category could not be analysed and the gender finding is confined to the male-female comparison.

XI. CONCLUSION

This study set out to examine what differentiates consumer perception towards artificial intelligence in online shopping among Generation Z consumers in Mysuru city. The answer that emerges is narrower and more specific than conventional segmentation practice would anticipate. Age, gender, educational qualification and occupation — the four demographic descriptors on which marketing segmentation habitually relies — each fail to establish a significant association with perception, with probabilities ranging from .364 to .967 and effect sizes uniformly negligible. Online shopping frequency, by contrast, is significantly associated with perception at the one per cent level, with a clear monotonic trend and an effect concentrated at the extremes of the behavioural scale.

The finding is theoretically coherent with the international literature on Gen Z and AI, which has consistently identified exposure, usage and familiarity as the antecedents of favourable technology perception, and it extends that literature by testing behavioural exposure directly against demographic alternatives on a single sample in an Indian tier-II setting. For practitioners the implication is direct: within Generation Z, what a consumer does with an e-commerce platform tells more about how that consumer perceives its artificial intelligence than any description of who the consumer is. For policy makers, the same finding counsels against treating high acceptance as informed acceptance. As AI moves further into the infrastructure of Indian retail, the distinction between familiarity and understanding is one that both regulators and firms will need to hold in view

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