

Profiling Online Consumers in India: Decision-Making Styles and Market Segmentation Using E-CSI.

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ABSTRACT

This study examined the psychometric properties of the Electronic Consumer Style Inventory (E-CSI) and investigated heterogeneity in electronic consumer decision-making styles using variable-centered and person-centered approaches. Data were collected from adult online consumers who met predefined inclusion criteria. The dimensional structure of the E-CSI was evaluated using exploratory and confirmatory factor analyses and reliability and construct validity were assessed by using established psychometric criteria. Item functioning was further examined using an Item Response Theory graded response model, that focused on item discrimination and threshold parameters. Latent Profile Analysis was conducted on GRM-derived latent trait estimates to identify homogeneous subgroups of consumers based on decision-making style configurations.

The results supported the E-CSI's multidimensional structure demonstrating satisfactory reliability and evidence of convergent and discriminant validity. Item response theory analyses indicated generally adequate item discrimination and appropriately ordered threshold parameters across most dimensions. Latent Profile Analysis supported a five-profile solution characterized by distinct relative configurations of innovative orientation, brand value consciousness, trend-sophistication, e-service quality sensitivity, and price sensitivity. In contrast impulsive buying tendency, misperception over choice, and social consciousness demonstrated comparatively stable patterns across profiles. Significant associations were observed between latent profile membership and gender.

The findings demonstrate the utility of integrating advanced psychometric modeling with person-centered segmentation to enhance understanding of online consumer behavior in the Indian context. The study offers actionable insights for e-commerce managers and contributes to applied consumer research by linking robust measurement with meaningful market segmentation.

Keywords: Electronic Consumer Style Inventory, Item Response Theory, Graded Response Model, Latent Profile Analysis, E-commerce, Market Segmentation

INTRODUCTION:

The exponential expansion of digital technologies has precipitated a vital shift in the milieu within which individuals formulate consumption-related decisions. A study conducted by Internet and Mobile Association of India (IAMAI), India (2022) demonstrated a large population of internet users surpassing several nations worldwide.

The fashion clothing market constitutes India's second-largest product category, surpassed only by groceries and food products. The growth and internationalization of e-commerce have facilitated convenient access to branded fashion products for Indian consumers. The accessibility of brand information, brand alternatives, and a rapid transaction mechanism in the online environment has been demonstrated to enhance the cognitive demands associated with decision-making. The proliferation of

electronic commerce has engendered an augmentation in the psychological intricacy of consumer decision-making processes, thereby underscoring the imperative for the establishment of valid and reliable metrics to assess individual variations in online purchasing behavior.

Consumer Decision-Making Styles

Consumer decision-making styles are conceptualized as latent cognitive-behavioral orientations that systematically influence consumers' alternative evaluation and purchasing decisions (Sproles & Sproles, 1990). These orientations are especially well-suited for psychometric modeling within contemporary frameworks since it was hypothesized that they represent relatively persistent latent qualities rather than situational states. Durvasula et al. (1993) posited that these styles were reminiscent of determined patterns of reasoning that arise during different purchasing situations.

Sproles and Kendall advanced the field of consumer research by conceptualizing consumer decision-making styles as multidimensional latent variables, a paradigm shift from the prevailing focus on observable traits. This seminal work, the Consumer Style Inventory (CSI), published in 1986, was an important point in consumer research. The CSI paradigm proposed that consumers do not use a single style, rather a variety of decision-making orientations that coexist and are used in different settings. (Bauer et al., 2006). Cross validation studies in different cultural contexts, like in Asian and Western cultures, support the latent dimensions of CSI.

1.2. Online Consumer Decision-Making Styles and IRT-Based Measurement

The rapid development of e-commerce has radically altered the context where increasing information availability, greater options and faster transactions shape buyer's decisions. These changes call for a paradigm shift in traditional customer decision-making methods in the context of e-commerce. (Sam & Chatwin, 2015; Zhijie et al., 2011). Dash and Kumar (2014) developed an Electronic Consumer Style Inventory (E-CSI) based on the CSI outline to understand the paradigm shift.

The E-CSI delineates eight theoretically derived online decision-making styles: Innovative Product Consciousness, Brand Value Consciousness, Trendy/Sophisticated Consciousness, E-Service Quality Consciousness, Price Consciousness, Impulsiveness, Misperception Over Choice, and Social Consciousness. It is evident that these styles collectively comprise polytomous latent variables that are manifested through graded responses. Given the ordinal character of the E-CSI items and the heterogeneity in item discrimination among indicators, the Graded Response Model (GRM) (Samejima, 1969) appears as a theoretically valid and technically sound method for standardizing the scale. The Graded Response Model (GRM), a methodological framework, enables researchers to assess discrimination and threshold functioning at the item level utilizing ordinal parameters. Accordingly, the GRM was employed to examine item functioning within the E-CSI, thereby offering fine-grained diagnostic insights into item functioning and latent trait measurement.

1.3. Latent Profile Analysis of Consumer Decision-Making Styles

Although IRT-based modeling, such as the GRM, utilizes a variable-centered strategy to confirm latent dimensions, it lacks the capacity to examine the joint occurrence of these dimensions for individual participants. However, to overcome this shortcoming, this study also uses Latent Profile Analysis (LPA), a person-centered strategy that groups homogeneous subgroups of consumers according to their scores on the E-CSI latent trait. The Latent Profile Analysis was used not merely as a statistical tool, but as a method to uncover practically meaningful consumer segments

LPA is predicated on the original CSI premise that consumers exhibit multiple decision-making styles concurrently. This approach enables the empirical determination of distinct consumer decision-making profiles. The LPA has higher precision since it is based on

measurement-error-adjusted estimates of the latent trait, which are generated by using factor scores derived from the GRM rather than explicit summing of scores. The integrated GRM-LPA architecture makes three key contributions

The theoretical enhancement is achieved through the recognition of organic decision-making profiles.

b) Psychometric accuracy using IRT scale standardization:

c) The application of relevance to the understanding of individual differences.

1.4. Present Study

The primary objective of the present study was to ensure the psychometric evaluation of the E-CSI using the IRT approach. The study conceptualizes decision-making styles as latent psychological qualities exhibited through graded item responses based on the Electronic Consumer Style Inventory (E-CSI).

The first objective was to psychometrically evaluate the E-CSI using the Graded Response Model (GRM), with particular attention to item discrimination, threshold ordering, and measurement precision across levels of latent traits.

The second objective is to identify homogeneous subgroups of online consumers based on their decision-making style configurations through Latent Profile Analysis (LPA), using GRM-derived latent trait estimates.

The third objective entails the examination of gender disparities across the identified latent consumer decision-making profiles through the implementation of chi-square-based auxiliary analyses.

The final objective is to substantiate the significance of the identified profiles in elucidating individual variations in online consumer decision-making.

This study makes a significant contribution to the field of applied psychology by integrating variable- and person-centered approaches. This integration facilitates a more comprehensive understanding of consumer decision-making processes in online environments.

LITERATURE REVIEW

Consumer decision-making styles considered as consistent latent traits within the organism that shape how consumers making decisions in consumption circumstances. Decision-making styles were defined as cognitive and affective orientations that influence buying and purchasing behavior in early foundational work in this field (Sproles & Kendall, 1986). According to this perspective, decision-making styles considered as consistent patterns of preference, information processing, and choice strategies instead a simply momentary responses (Sproles & Kendall, 1986). These latent traits had been extensively applied in both theoretical and applied research to understand heterogeneous consumer behaviors across cultures.

Consumer Style Inventory (CSI), developed by Sproles and Kendall in 1986, first comprehensive instrument for operationalizing decision-making styles. This inventory

had eight dimensions that develop on consumer characteristic approach. CSI had developed and validated in the United States, after its conception this inventory used and modified in a number of different cultural contexts, such as India and other Asian markets, where cultural and market variations can cause factor structures to deviate from the original model (Pillai & Srivastava, 2015; Mishra, 2010).

Researchers had further argued that conventional consumer decision-making styles need to be re-conceptualized to reflect the unique features of the online environment. According to research on online consumer behavior, decision-making styles continue to be significant factors in digital purchasing decisions, impacting online users' intention to buy, participation, and satisfaction (Zaichkowsky, 1985; Fan & Xiao, 1998; Walsh et al., 2001). For instance, Price consciousness and novelty seeking had a significant effect on online purchase intentions in e-commerce settings (Suryawan and Yugopusito, 2023). This suggests that CSI constructs were still relevant in online markets. Several researchers established the online consumer style inventory which modify the conventional CSI framework for digital contexts, in response to the requirement for a measurement tool specifically designed for the online buying environment (Dash and Kumar, 2014, Sam et.al, 2011). Research indicates that these online-specific dimensions, especially in quickly changing digital

countries like India and Southeast Asia, can offer deeper insights into consumer behavior in e-commerce environments than the original CSI alone (Helmi et.al. 2023)

Collectively, prior literature underscores both the durability of decision-making style constructs and the need for context-specific measurement and analysis, especially in online consumption settings. In order to capture the structure and heterogeneity of consumer decision styles in digital markets, this body of data supports the integration of confirmatory measurement methodologies and person-centered studies, including latent profile analysis.

3. Method

3.1. Participants and Procedure

A total of 599 Indian consumers with prior experience in online purchasing were included in the study. These consumers were selected using a purposive sampling approach. The present study's participants were adult consumers who had previously purchased items online and who belonged to the middle income group. The study's participants included 299 male and 300 female consumers, for a total of 599 subjects. Informed consent was obtained from each participant, and confidentiality and anonymity were maintained. Sample characteristics represented below

Table 1: Sample Characteristics of the respondents (N=599)

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	299	49.9
	Female	300	50.1
Age (years)	25–29	326	54.4
	30–34	273	45.6
Educational Qualification	Graduate	451	75.3
	Postgraduate and above	148	24.7
Monthly Income (INR)	₹20,000–₹30,000	347	57.9
	₹31,000–₹40,000	252	42.1

3.2. Measures

The Electronic Consumer Style Inventory (E-CSI) a 35 item scale designed to assess eight dimensions of decision-making style. Innovative product consciousness (7 items), brand value consciousness (8 items), trendy-sophisticated consciousness (4 items), e-service quality consciousness (4 items), price sensitivity (3 items), impulsive buying behavior (3 items), misperception over choice (3 items), and social consciousness (3 items). The items were evaluated using a 5 point Likert-type scale, with higher scores denoting a stronger endorsement of the respective decision-making tendency.

3.3. Statistical analysis

Statistical analyses were conducted in multiple stages which describe below sequentially

3.3.1. Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was incorporated to confirm the measurement model. The assessment of model fit was conducted by employing standard fit indices, including the Tucker-Lewis index (TLI), the comparative fit index (CFI), the standardized root mean square residual (SRMR), and the root mean square error of approximation (RMSEA).

3.3.2. Reliability and Validity

The reliability parameter was investigated using composite reliability. Convergent validity was tested using the average variance extracted (AVE), and the heterotrait-monotrait ratio method was incorporated for the assessment of discriminant validity. A bootstrapping procedure was applied to obtain confidence intervals for the HTMT estimates.

3.3.3. Item Response Theory Analysis

The E-CSI items were analyzed using the graded response model (GRM) of Item Response Theory (IRT) to ascertain their psychometric properties. The estimation of the index of difficulty and discrimination was achieved by employing GRM item parameters. These parameters were examined to assess the precision with which items differentiated individuals across the levels of the underlying decision-making traits.

3.3.4. Consumer Segmentation by employing Latent Profile Analysis

Latent Profile Analysis was performed using latent factor scores obtained from the validated measurement model, which attempted to explore decision-making patterns and form a homogenous subgroup of consumers. This individual-focused methodology corresponds with modern mixture modeling frameworks that interpret heterogeneity as emerging from unobserved latent classes, rather than variable-level relationships (Hofmans et al., 2020; Masyn, 2013). Model with increasing numbers of profiles were estimated, and information criteria like AIC, BIC, and sample-adjusted BIC (SABIC) along with entropy, and bootstrap likelihood ratio test (BLRT) incorporated for model selection or identification (Nylund et al., 2007; Tein et al., 2013).

3.3.5. Gender Differences through auxiliary analysis

The chi-square test of independence was incorporated to assess the connection between latent profile membership and gender. Cramer’s V was incorporated to examine the effect size and statistical differences in the applied framework.

By integrating factor analysis, IRT-based item-level assessment, and person-centered profiling, the current study embraces a holistic psychological measurement paradigm to investigate the structure and individual differences of electronic consumer decision-making styles.

3.4. Statistical Software

Item response theory analyses were conducted using R statistical software and SPSS AMOS. Factor analyses, latent profile analysis, and group comparisons were also performed using. All analyses followed the recommended practices for reproducibility and transparency.

Result

In this section study result was presented in accordance with the objective

Preliminary Analyses

Before estimating the model, all items' distributional characteristics and descriptive statistics were reviewed. Item means and standard deviations were within acceptable ranges, and no severe deviations from normality were observed in kurtosis and skewness values.

Table 2: Descriptive Statistics table for eight dimensions of E-CSI

Dimensions of E-CSI	N	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Innovative product conscious	599	3.4650	.79367	-.772	.100	.529	.199
Brand value conscious	599	3.0683	.97194	-.012	.100	-.744	.199
Trendy sophisticated conscious	599	3.0729	.98898	-.087	.100	-.759	.199
E- service quality conscious	599	3.1696	1.03340	-.263	.100	-.700	.199
Price sensitive	599	3.9289	.50497	-.358	.100	1.552	.199
Impulsive buying behavior	599	2.9361	1.11089	.028	.100	-.942	.199
Misperception over choice	599	2.9593	1.08554	-.003	.100	-.852	.199
socially conscious	599	3.1394	1.14129	-.212	.100	-.960	.199

Pearson correlations among the eight E-CSI dimensions are presented in Table 3.

Table 3: Zero-Order Correlations Among E-CSI Dimensions

Correlations

	IPC	BVC	TSC	ESC	PSC	IBB	MOC	SC
IPC	1							
BVC	-.054	1						
TSC	.061	.029	1					
ESC	-.010	.054	.692*	1				
PSC	.101	-.002	.070	.059	1			
IBB	.006	-.015	.018	-.112	.046	1		
MOC	.068	-.047	-.048	-.058	.008	-.002	1	
SC	-.015	.029	-.047	.046	-.047	-.083	.035	1

*significant at 0.05 level

The E-CSI dimensions showed predominantly weak to moderate correlations, indicating conceptual relatedness without redundancy and supporting the suitability of a person-centered profiling approach. Overall, the correlation pattern supports the use of a person-centered approach to capture configural differences across consumers.

Factor Structure and Construct Validity

Confirmatory Factor Analysis (CFA)

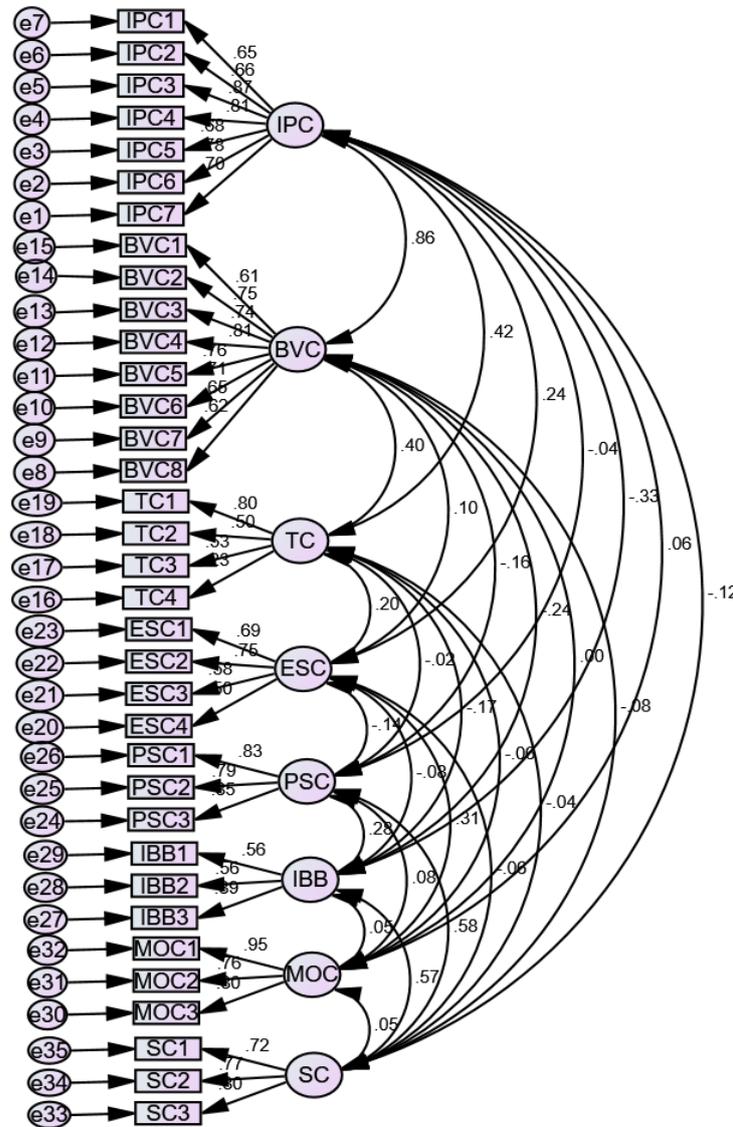
A prior research confirms eight factor structure of E-CSI model which was theory driven so exploratory factor analysis did not perform here. Instead of that, Confirmatory Factor Analysis was employed to measure hypothesized measurement model in and Indian e-commerce context. The proposed measurement model further evaluated by conducting confirmatory factor analysis (CFA).

Table 4: Model Fit Indices Result of Electronic Consumer Style Inventory

Model Fit Indices	Estimated Value	Acceptable Range
Chi-Square	822.903	Significant at 0.05 level
Root Mean Square Error of Approximation (RMSEA)	0.07	< 0.08 (acceptable fit)
Comparative Fit Index (CFI)	0.85	Greater than 0.80
Tucker-Lewis Index (TLI)	0.91	Greater than 0.80
Standardized Root Mean Square Residual (SRMR)	0.07	Less than 0.08

Model fit indices of the Electronic Consumer Style Inventory were furnished. RMSEA estimated value found to be 0.07, CFI and TLI were also greater than 0.80, estimated SRMR value was also found to be 0.08, an adequate fit. (Fabrigar et al, 1999, Baumgartner and Homburg,1996, Hu and Bentler, 1999). Considering the multi-dimensional factor structure and item complexity of E-CSI, observed fit indices seems to be sufficient for further analysis. All standardized factor loadings were significant and surpassed the specified thresholds, so affirming the factorial validity of the instrument.

Figure 1: Confirmatory Factor Analysis (CFA) Measurement Model of the Electronic Consumer Style Inventory (E-CSI)



Reliability and structural validity

Internal consistency of all E-CSI dimensions showed a higher level of reliability. All eight styles showed a composite reliability estimate > 0.70.

Convergent validity was estimated through Average Variance Extracted (AVE) values and its observed that values were ensure validity (Bagozzi and Yi, 1988). While discriminant validity also measured by incorporating Heterotrait Monotrait Ratio (HTMT) bootstrap method (represented in Appendix A) and it also met the recommended threshold (Henseler, 2015). This measure also recommended that the multicollinearity problem did not exist between the constructs. (Roemer, 2021)

Item Response Theory Analysis

Psychometric properties at item level of E-CSI was analysed using graded response model (GRM). Most items were effective in differentiating between individuals across varying levels of the latent traits as indicated in discrimination parameters. Threshold parameters were ordered appropriately, suggesting consistent response category functioning. (presented in Appendix B)

Test information curves (TIF) indicated that the scale had the greatest measurement precision throughout low to moderate levels of the underlying decision-making styles (Figure A). Parameters estimates in TIF no dimension showed any problematic pattern. Details of all the item parameters represented in Appendix B.

Latent Profile Analysis

To explore heterogeneity of decision making styles of consumers in online platforms Latent Profile Analysis (LPA) was conducted. Model fit Indices like Akaike Information Criterion (AIC), Bayesian Information

Criterion (BIC), and sample-size adjusted BIC (SABIC) endorsed multi-profile solution. Entropy indicating adequate classification accuracy in retained solution (Nylund et al., 2007).

Table 5: Model Fit Indices for Latent Profile Solutions

Profiles	AIC	BIC	SABIC	Entropy	BLRT p
2	12655	12765	12685	0.642	< .01
3	12484	12633	12525	0.789	< .01
4	12452	12641	12505	0.792	< .01
5	12433	12662	12497	0.731	< .01
6	12077	12346	12152	0.896	< .01

A five profile solution considered best because it furnished parsimony, classification accuracy, and interpretability. Meaningful distinction was identified

across decision making syle dimensions. These profiles reflected distinct patterns of relative endorsement rather than absolute differences in scale levels, supporting their interpretability as variations in decision-making tendencies.

Table 6: Latent Profile Means for E-CSI Dimensions and Profile Membership Distribution (Five-Profile Solution)

Profile	n	%	Mean Scores of Dimensions							
			IPC	BVC	TSC	ESC	PSC	IBB	MOC	SC
1	83	13.86	3.56	2.76	1.60	1.50	3.92	3.04	3.04	3.10
2	41	6.84	1.79	3.52	2.57	2.82	3.87	3.02	2.59	3.36
3	100	16.69	2.94	3.27	2.82	2.36	3.23	4.00	3.88	2.91
4	235	39.23	3.45	3.00	3.07	3.44	3.83	2.77	3.11	3.22
5	140	23.37	3.61	3.08	4.29	4.38	4.07	2.93	2.78	3.11

For explanatory causes, the five latent profiles describe tentatively below

Profile 1: High IPC–PSC Configuration

Profile 2: High BVC Configuration

Profile 3: Broadly Elevated Configuration

Profile 4: Moderate Across Dimensions Configuration

Profile 5: High TSC–ESC Configuration

Figure 2: Latent Profile Plot of Mean Scores Across Electronic Consumer Style Inventory Dimensions

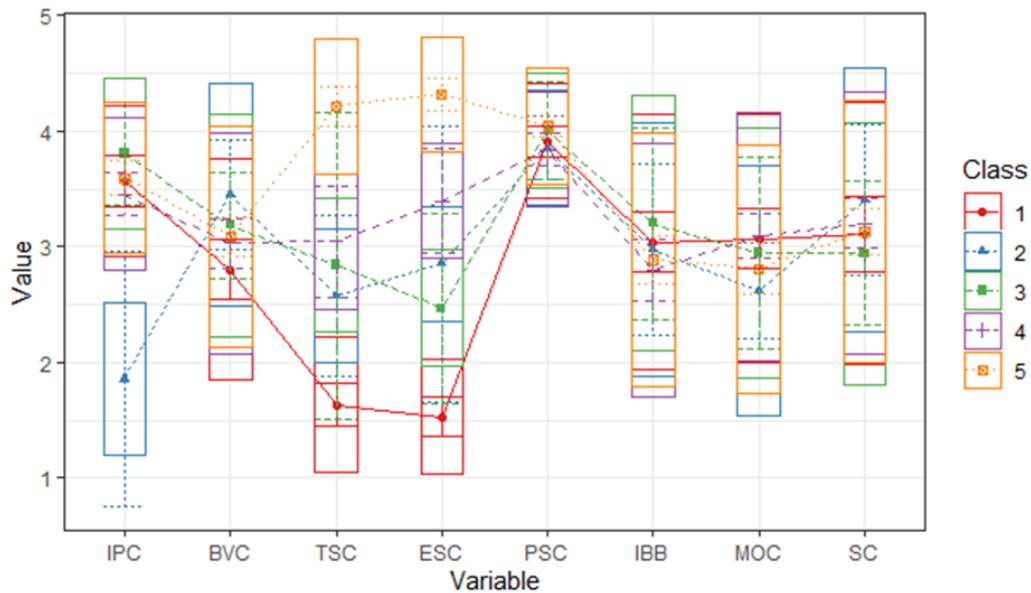


Figure 2 depict clear differentiation on Innovative Product Consciousness, Trendy/Sophisticated Consciousness, E-Service Quality Consciousness, and Price Sensitivity, whereas variation is comparatively limited for Social Consciousness and Misperception Over Choice

Profile Differences by demographic variable (Gender)

Chi-square test of independence showed that statistically significant association between gender and latent profile membership was statistically significant, $\chi^2(4) = 25.34$, $p < .01$. The corresponding effect size, as indicated by Cramer's V found to be 0.26, suggested adequate association, implying that gender was differentially represented across the identified consumer style profiles.

DISCUSSION

The present study evaluated the psychometric properties of the Electronic Consumer Style Inventory (E-CSI) and explored heterogeneity in consumer's decision-making styles related to online purchases. This was achieved by using complementary factor analytic, item response theory person-centered approach. The results of exploratory and confirmatory factor analysis lend support to the multidimensional structure of the E-CSI. These findings align with previous conceptualizations of consumer decision-making style research, which incorporates distinct psychological tendencies. The pattern of multi-dimensional feature of E-CSI establish distinctive approach of decision making styles instead of single trait (Dash and Kumar, 2014).

The results of Item response theory results exhibited that most items had strong discrimination and well-distributed threshold parameters. This suggested that the E-CSI items capable of capturing individual differences across a broad range of consumer decision-making tendencies. Such findings were also in accordance with the generally theoretical advantages of graded response models for ordered categorical data, namely, to assess item-level measurement precision (Samejima, 1969). A satisfactory model fit, in congruence with indices of construct validity validates internal structure of the E-CSI and was in line

with current psychometric standards (Henseler et al., 2015).

Latent profile analysis reveals meaningful configural heterogeneity among Indian online consumers rather than differing only in the intensity of individual decision-making styles, consumers cluster into distinct profiles characterized by unique patterns of decision tendencies. The transition from a variable-centered approach to a person-centered approach by incorporating Latent Profile Analysis (LPA) revealed a five-class solution as the most parsimonious and theoretically sound model (Hofmans et al., 2020). The identification of five distinct profiles suggests that online consumer behavior is not a homogeneous construct rather a complex configuration of traits. This profiling based mixture modeling assumption established that the population likely to composed of unobserved subpopulations with unique trait profiles (Masyn, 2013; Tein et al., 2013). These profiles should be interpreted as relative configurations of tendencies rather than fixed or categorical consumer types. Profiles were well differentiated, based on acceptable entropy values, though some overlap observed between groups which considered typical phenomena of psychological classification relying on continuous traits.

Profiles identified through Latent Profile Analysis (LPA) reflected some features like Profile 1 represented (13.86%), high level of Innovative Product Consciousness and Price Sensitivity pattern of the consumers which indicated novelty and price focusing. Profile 2 was (6.84%) displayed higher level of Brand Value Consciousness and moderate scores on remaining dimensions related to online purchase of consumers. Profile 3 (16.69%) was characterized by elevated scores across most dimensions, particularly Innovative Product Consciousness, Brand consciousness and Price Sensitive buying pattern. Profile 4 the largest segment (39.23%) reflecting moderately high and relatively even scores

across dimensions. Profile 5 (23.37%), was second largest profile exhibited elevated Trendy/Sophisticated and E-Service Quality Conscious decision making pattern scores, along with high Price Sensitive behavioural pattern. Two decision making styles namely, Social Consciousness and Misperception Over Choice exhibited lower variation across all identified profiles. This suggest a more stable foundation and pattern of these two dimensions.

The different profile membership between males and females observed here brings important clues on the sociodemographic determinants of digital consumption. Although gender is frequently handled as a covariate in the literature, we argue that (in) the likelihood to belong in certain decision-making profile of online consumers can be moderated by gender (Chen et.al, 2012). This transition from a variable-centered towards a person-centered approach demonstrates that the impact of gender was not limited to simply shifting the mean level of a trait: but influences the entire configural surface depicted by consumer activities (Hofmans et al., 2020).

A unique attribute of this study is the explicit linkage between validated measurement (via CFA and IRT) and latent profile identification, which strengthens the interpretability and psychometric robustness of the profiles. Present study results extend the consumer decision-making styles literature by illustrating how validated style dimensions coalesce into meaningful profiles that reflect complex patterns of engagement with online purchase decisions. Apart from that from the stand point of e-commerce perspective in Indian market these identified heterogenous profile potent to develop new market strategies.

Implications for Applied Psychological Research

The study result provide a potent and actionable framework for the market researchers and managers to develop new strategies for the Indian marketplace. First, identified profile segments suggest that marketers should not focus only on demographic segmentation. Instead of that psychographic segmentation provides a better outlook grounded in decision making styles. this psychographic profiling provide leverage to online retailers for better product recommendation, price point cues and other aspects.

Second, marketers identified distinct profiles that may help them to built strong framework to cater consumers through verified reviews, simplified interfaces. Such

practices helps them to built user friendly and trust building interfaces which help their market equity in Indian marketplace

Third, profiling helps them for brand positioning, influencer marketing and product offers build up for group of consumers who cherished these leverages. Indian consumers increasingly social media and online trends, hence it helps marketers to form new strategies to cater them.

Finally, psychometric evaluation and validation of E-CSI help the managers as a diagnostic tool to track consistent evolvement of Indian consumers at various facets like payment systems, regulatory systems and digital infrastructure.

Scope for further research

Limitations were also present which broaden the scope for further research. Longitudinal approaches need to be considered for further research which was not met in present study. Common method variance was often found in self report measure (Podsakoff et al., 2003) which might affect the generalizability. Though procedural remedies employed but replication studies and longitudinal studies across various sections further mitigate the biases. Covariates like income, education, and digital literacy should also consider in future research for further refinement of online consumer decision-making.

CONCLUSION

The present study provides psychometric suitability for the multidimensional structure of electronic consumer decision-making styles. The study also demonstrates meaningful heterogeneity through latent profile analysis. By integrating item response theory, confirmatory factor analysis, and latent profile analysis, the study provides an analytic framework for understanding decision making patterns in online purchases. These findings contribute to applied psychological research by illustrating how validated latent constructs can be combined with person-centered approaches to enhance the understanding of complex decision-making behavior.

Conflict of Interest

Authors declare no conflicts of interest

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REFERENCES

1. Bagozzi, R. and Yi, Y., 1988. On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16, pp.74–94. <https://doi.org/10.1007/BF02723327>
2. Bartlett, M.S., 1954. A note on the multiplying factors for various χ^2 approximations. *Journal of the Royal Statistical Society: Series B (Methodological)*, 16(2), pp.296–298.
3. Bauer, H.H., Sauer, N.E. and Becker, C., 2006. Investigating the relationship between product involvement and consumer decision-making styles.

- Journal of Consumer Behaviour, 5(4), pp.342–354. <https://doi.org/10.1002/cb.185>
4. Baumgartner, H. and Homburg, C., 1996. Applications of structural equation modeling in marketing and consumer research: A review. *International Journal of Research in Marketing*, 13(2), pp.139–161. [https://doi.org/10.1016/0167-8116\(95\)00038-0](https://doi.org/10.1016/0167-8116(95)00038-0)
5. Dash, M.K. and Kumar, A., 2014. Electronic Consumer Style Inventory: Factor exploration and multi-comparison analysis. *Asian Academy of Management Journal*, 19(2), pp.43–65.

https://ejournal.usm.my/aamj/article/view/aamj_vol19-no-2-2014_3

6. Durvasula, S., Lysonski, S. and Andrews, J.C., 1993. Cross-cultural generalizability of a scale for profiling consumers' decision-making styles. *The Journal of Consumer Affairs*, 27(1), pp.55–65. <https://doi.org/10.1111/j.1745-6606.1993.tb00737.x>
7. Dziuban, C.D. and Shirkey, E.C., 1974. When is a correlation matrix appropriate for factor analysis? Some decision rules. *Psychological Bulletin*, 81(6), pp.358–361. <https://doi.org/10.1037/h0036316>
8. Fabrigar, L.R., MacCallum, R.C., Wegener, D.T. and Strahan, E.J., 1999. Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), pp.272–299. <https://doi.org/10.1037/1082-989X.4.3.272>
9. FAN, J.X. and XIAO, J.J. (1998), Consumer Decision-Making Styles of Young-Adult Chinese. *Journal of Consumer Affairs*, 32: 294. <https://doi.org/10.1111/j.17456606.1998.tb00410.x>
10. Fraley, R.C., Waller, N.G. and Brennan, K.A., 2000. An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78(2), pp.350–365. <https://doi.org/10.1037/0022-3514.78.2.350>
11. Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E., 2014. *Multivariate data analysis*. 7th ed. Harlow: Pearson.
12. Henseler, J., Ringle, C.M. and Sarstedt, M., 2015. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), pp.115–135. <https://doi.org/10.1007/s11747-014-0403-8>
13. Hofmans, J., Wille, B., & Schreurs, B. (2020). Person-centered methods in vocational psychology: A review and application. *Journal of Vocational Behavior*, 118, 103398. <https://doi.org/10.1016/j.jvb.2020.103398>
14. Hu, L.T. and Bentler, P.M., 1999. Cut off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), pp.1–55. <https://doi.org/10.1080/10705519909540118>
15. Internet and Mobile Association of India. (2022). Kantar ICUBE 2022 report. <https://cms.iamai.in/>
16. Kaiser, H.F. and Rice, J., 1974. Little Jiffy, Mark IV. *Educational and Psychological Measurement*, 34(1), pp.111–117. <https://doi.org/10.1177/001316447403400115>
17. Lysonski, S. and Durvasula, S., 2013. Consumer decision-making styles in retailing: Evolution of mindsets and psychological impacts. *Journal of Consumer Marketing*, 30(1), pp.75–87. <https://doi.org/10.1108/07363761311290858>
18. Masyn, K. E. (2013). Latent class analysis and finite mixture modeling. In T. D. Little (Ed.), *The Oxford handbook of quantitative methods* (Vol. 2, pp. 551–611). Oxford University Press.
19. Mitchell, V. and Walsh, G., 2004. Gender differences in German consumer decision-making styles. *Journal of Consumer Behaviour*, 3(4), pp.331–346. <https://doi.org/10.1002/cb.146>
20. Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling: A Multidisciplinary Journal*, 14(4), 535–569. <https://doi.org/10.1080/10705510701575396>
21. Pillai #, S., & Srivastava, A. (2015). Consumer Decision-Making Styles of Indian Adolescents. *Contemporary Management Research*, 11(4). <https://doi.org/10.7903/cmr.14181>
22. Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
23. Roemer, E., Schuberth, F. and Henseler, J., 2021. HTMT2—An improved criterion for assessing discriminant validity in structural equation modeling. *Industrial Management & Data Systems*, 121(12), pp.2637–2650. <https://doi.org/10.1108/IMDS-02-2021-0082>
24. Samejima, F., 1969. Estimation of latent ability using a response pattern of graded scores. *Psychometrika Monograph Supplement No. 17*. <https://doi.org/10.1002/j.2333-8504.1968.tb00153.x>
25. Sproles, E.K. and Sproles, G.B., 1990. Consumer decision-making styles as a function of individual learning styles. *The Journal of Consumer Affairs*, 24(1), pp.134–147. <https://doi.org/10.1111/j.1745-6606.1990.tb00262.x>
26. Sproles, G.B. and Kendall, E.L., 1986. A methodology for profiling consumers' decision-making styles. *Journal of Consumer Affairs*, 20(2), pp.267–279. <https://doi.org/10.1111/j.1745-6606.1986.tb00382.x>
27. Suryawan, I. M., & Yugopuspito, P. (2022). The Effect Of Consumer Decision Making Style On Consumer Satisfaction And Repurchase Intention In Buying Sneakers Products Online In Indonesia. *Enrichment: Journal of Management*, 12(2), 1419-1433. <https://doi.org/10.35335/enrichment.v12i2.415>
28. Tein, J.-Y., Coxé, S., & Cham, H. (2013). Statistical power to detect the correct number of classes in latent profile analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, 20(4), 640–657. <https://doi.org/10.1080/10705511.2013.824781>
29. WALSH, GIANFRANCO & Mitchell, Vincent-Wayne & Hennig-Thurau, Thorsten. (2001). German Consumer Decision-Making Styles. *Journal of Consumer Affairs*. 35. 73 - 95. <https://doi.org/10.1111/j.1745-6606.2001.tb00103.x>
30. Zaichkowsky, J. L. (1985). Measuring the Involvement Construct. *Journal of Consumer Research*, 12(3), 341–352. <http://www.jstor.org/stable/254378>