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Consumer Attitudes Towards Menstrual Products: An Empirical Study in Karnataka

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Abstract:
Consumer attitudes play a significant role in shaping purchasing decisions and preferences towards menstrual products. Understanding these attitudes is essential for identifying the factors that influence product acceptance, purchasing confidence and quality expectations. The present study aims to examine consumer attitudes towards menstrual products in Karnataka and analyse their response patterns concerning various attitude-related aspects. The study adopts a quantitative research approach based on primary data collected from 589 respondents in Karnataka. Five attitude-related statements were measured using a five-point Likert scale. The collected data were analysed using descriptive statistics, frequency and percentage analysis, Cronbach's Alpha and the Chi-square Goodness-of-Fit test. The reliability analysis established good internal consistency among the measurement items, with a Cronbach's Alpha value of 0.862. The descriptive analysis revealed mean scores ranging from 3.77 to 3.81, indicating generally favourable consumer attitudes towards menstrual products. The frequency analysis showed that approximately 68% to 72% of respondents expressed agreement with statements relating to positive product reviews, price-quality perceptions, purchasing confidence, environmental friendliness and willingness to pay higher prices for superior quality. Furthermore, the Chi-square Goodness-of-Fit results indicated statistically significant differences between observed and expected response frequencies across all five statements ($p < .001$). The study concludes that consumers demonstrate generally favourable attitudes towards menstrual products, particularly regarding product quality and purchasing considerations. The findings offer useful insights for manufacturers, marketers and other stakeholders in understanding consumer expectations and developing consumer-oriented product strategies.

Keywords: Consumer Attitudes; Menstrual Products; Consumer Behaviour; Purchasing Decisions; Karnataka.

1. INTRODUCTION

Menstrual hygiene is an essential aspect of women's health, personal well-being and quality of life. Menstrual products play a significant role in ensuring hygiene, comfort and confidence during menstruation. With increasing awareness of menstrual health and the availability of diverse menstrual products, consumers have greater opportunities to select products according to their individual needs and

preferences. However, purchasing decisions are influenced not only by product availability and affordability but also by consumers' attitudes, perceptions and expectations regarding menstrual products.

Consumer attitude refers to an individual's favourable or unfavourable evaluation of a product based on personal beliefs, experiences and perceptions. In the context of menstrual products, attitudes may be influenced by perceived product quality, recommendations, purchasing confidence, environmental concerns and willingness to pay for superior features. Positive reviews and recommendations can encourage consumers to explore new menstrual products, while perceptions regarding the relationship between price and quality may influence their purchasing decisions. Similarly, confidence in purchasing menstrual products without hesitation reflects an important behavioural aspect of consumer attitude.

In recent years, environmental sustainability has gained attention in the menstrual product market. Concerns regarding the disposal of conventional menstrual products have encouraged discussions about environmentally friendly alternatives. Consequently, consumers' attitudes towards sustainable products and their willingness to pay higher prices for improved quality have become relevant considerations for manufacturers and marketers. Nevertheless, favourable attitudes towards product quality or environmental sustainability may not always translate into actual purchasing behaviour.

Karnataka provides a relevant geographical setting for examining consumer attitudes towards menstrual products. Understanding how consumers evaluate product reviews, quality, purchasing confidence, environmental friendliness and premium pricing can offer insights into their expectations and preferences. Although menstrual hygiene has received considerable attention in public health discussions, examining consumer attitudes from a marketing and consumer behaviour perspective can provide an additional understanding of menstrual product choices.

The present study examines consumer attitudes towards menstrual products among 589 respondents in Karnataka. The study focuses on five attitude-related dimensions: positive product reviews, price-quality perceptions, purchasing confidence, environmental friendliness and willingness to pay higher prices for superior quality. By employing descriptive statistics, frequency analysis and the Chi-square Goodness-of-Fit test, the study seeks to understand consumer evaluations and response patterns. The findings are expected to contribute to a better understanding of consumer attitudes and provide practical insights for menstrual product manufacturers, marketers and other stakeholders.

2. LITERATURE REVIEW

Poulose et al. (2024) investigated the purchase intentions of rural Indian women towards menstrual products using the Theory of Planned Behaviour. The study examined the influence of consumer awareness, attitudes, social influences and demographic characteristics on purchasing intentions. The findings revealed that consumer awareness, attitudes and social influences were important determinants of purchase intention. Age and educational attainment also influenced consumer choices, with younger and more educated respondents demonstrating greater product awareness and choice. The study

highlighted the importance of understanding psychological and social factors in menstrual product marketing.

Shukla et al. (2024) investigated the factors influencing women's attitudes towards adopting menstrual cups by integrating consumer value theory with the Theory of Planned Behaviour. The study collected primary data from 304 Indian women and employed partial least squares structural equation modelling. The findings indicated that emotional value significantly influenced women's attitudes towards menstrual cup adoption. The research demonstrated the relevance of consumer perceptions and perceived value in understanding attitudes towards alternative menstrual products.

Chadha and Sondhi (2026) explored the factors influencing the adoption of sustainable menstrual hygiene products, particularly menstrual cups, among urban Indian women. Based on in-depth interviews with 46 respondents, the study identified comfort, convenience, peer support and environmental sustainability as important considerations in product adoption. The findings also highlighted the role of digital recommendations and social networks in encouraging consumers to consider alternatives to conventional sanitary napkins. The study suggested that both functional benefits and sustainability concerns contribute to consumer decisions regarding menstrual products.

3. RESEARCH METHODOLOGY

The present study adopts a quantitative and descriptive research design to examine consumer attitudes towards menstrual products in Karnataka. The study is based on primary data collected from 589 respondents through a structured questionnaire. Consumer attitudes were assessed using five statements relating to positive product reviews, price-quality perceptions, purchasing confidence, environmental friendliness and willingness to pay higher prices for superior quality. Responses were measured using a five-point Likert scale.

The collected data were analysed using the Statistical Package for the Social Sciences (SPSS). Cronbach's Alpha was employed to assess the internal consistency of the five attitude-related statements. Descriptive statistics, including mean, standard deviation, skewness and kurtosis, were used to examine the distribution of responses. Frequency and percentage analysis was conducted to identify consumer agreement and disagreement with individual statements. Furthermore, the Chi-square Goodness-of-Fit test was applied to determine whether the observed response frequencies differed significantly from equal expected frequencies across the observed response categories. The hypotheses were tested at a 5% level of significance. These statistical techniques were selected to provide a systematic understanding of consumer attitudes and response patterns towards menstrual products.

4. OBJECTIVES OF THE STUDY

Objectives of the study are as follows:

- To examine consumer attitudes towards menstrual products in Karnataka.
- To analyse the response patterns of consumers towards various attitude-related aspects of menstrual products.

5. Hypotheses of the Study

Based on the second objective, the following hypotheses were formulated:

Null Hypothesis (H_0): There is no significant difference between the observed and expected response frequencies concerning consumer attitudes towards menstrual products.

Alternative Hypothesis (H_1): There is a significant difference between the observed and expected response frequencies concerning consumer attitudes towards menstrual products.

The hypotheses will be examined separately for each of the five attitude-related statements using the Chi-square Goodness-of-Fit test.

6. DISCUSSION

The collected data were analysed to examine consumer attitudes towards menstrual products in Karnataka. The analysis was carried out using responses obtained from 589 respondents. Reliability analysis was employed to assess the internal consistency of the attitude-related statements. Descriptive statistics and frequency analysis were used to understand consumer perceptions and response patterns. Furthermore, the Chi-square Goodness-of-Fit test was conducted to determine whether the observed response frequencies differed significantly from the expected frequencies.

6.1 Reliability Analysis

Table 1: Reliability Statistics of Consumer Attitudes

Variable	No. of Items	Cronbach's Alpha	Interpretation
Consumer Attitudes	5	0.862	Good Reliability
Source: Primary Data			

Interpretation:

Table 1 presents the reliability statistics of the five statements used to measure consumer attitudes towards menstrual products. The Cronbach's Alpha value of 0.862 exceeds the commonly accepted threshold of 0.70, indicating good internal consistency among the measurement items. Furthermore, the corrected item-total correlations ranged from 0.662 to 0.690, demonstrating satisfactory relationships between individual statements and the overall attitude scale. The Cronbach's Alpha values obtained after deleting individual items were lower than the overall reliability coefficient. Therefore, all five statements were retained for further analysis.

6.2 Descriptive Statistics

Table 2: Descriptive Statistics of Consumer Attitudes towards Menstrual Products

Consumer Attitude Statements	Mean	SD	Skewness	Kurtosis
Willingness to try new menstrual products based on positive reviews	3.79	0.616	-0.144	0.046

Perception that menstrual product prices reflect quality	3.78	0.592	-0.043	-0.158
Confidence in purchasing menstrual products without hesitation	3.77	0.640	-0.071	-0.132
Preference for environmentally friendly menstrual products	3.81	0.641	-0.034	-0.207
Willingness to pay higher prices for superior-quality menstrual products	3.81	0.597	-0.051	-0.099
Source: Primary Data, N = 589. Scale: 1 = Strongly Disagree to 5 = Strongly Agree.				

Interpretation

Table 2 reveals that the mean scores of all five attitude-related statements ranged from 3.77 to 3.81, exceeding the neutral midpoint of 3.00. The highest mean scores were recorded for preference towards environmentally friendly menstrual products and willingness to pay higher prices for superior-quality products (Mean = 3.81). Willingness to try new products based on positive reviews recorded a mean of 3.79, followed by price-quality perceptions (Mean = 3.78). Purchasing confidence recorded a comparatively lower mean of 3.77. The standard deviation values ranged from 0.592 to 0.641, indicating relatively limited variation in responses. The skewness values were slightly negative, while kurtosis values remained close to zero. Overall, the findings suggest generally favourable consumer attitudes towards menstrual products, particularly concerning product quality, environmental considerations and purchasing preferences.

6.3. Frequency and Percentage Analysis

Table 3: Distribution of Consumer Responses towards Attitude-Related Statements

Consumer Attitude Statements	Strongly Disagree f (%)	Disagree f (%)	Neutral f (%)	Agree f (%)	Strongly Agree f (%)
Willingness to try new menstrual products based on positive reviews	0 (0.00)	7 (1.19)	165 (28.01)	361 (61.29)	56 (9.51)
Perception that menstrual product prices reflect quality	0 (0.00)	3 (0.51)	174 (29.54)	363 (61.63)	49 (8.32)
Confidence in purchasing menstrual products without hesitation	0 (0.00)	8 (1.36)	178 (30.22)	342 (58.06)	61 (10.36)
Preference for environmentally friendly menstrual products	0 (0.00)	6 (1.02)	171 (29.03)	343 (58.23)	69 (11.71)
Willingness to pay higher prices for superior-quality menstrual products	0 (0.00)	3 (0.51)	163 (27.67)	367 (62.31)	56 (9.51)

Source: Primary Data, N = 589

Interpretation

Table 3 presents the frequency and percentage distribution of consumer responses towards five attitude-related statements concerning menstrual products. Regarding willingness to try new menstrual products based on positive reviews, 61.29% of respondents agreed and 9.51% strongly agreed, while 28.01% remained neutral and 1.19% disagreed. Concerning the perception that product prices reflect quality, 61.63% agreed and 8.32% strongly agreed, whereas 29.54% expressed neutral opinions and 0.51% disagreed. With respect to purchasing confidence, 58.06% agreed and 10.36% strongly agreed that they could purchase menstrual products without hesitation, while 30.22% remained neutral and 1.36% disagreed. Regarding environmental friendliness, 58.23% agreed and 11.71% strongly agreed that menstrual products should be environmentally friendly, whereas 29.03% remained neutral and 1.02% disagreed. Furthermore, 62.31% agreed and 9.51% strongly agreed that they were willing to pay higher prices for superior-quality menstrual products, while 27.67% remained neutral and 0.51% disagreed. Notably, none of the respondents selected the Strongly Disagree category for any of the five statements. Overall, the findings indicate generally favourable consumer attitudes towards menstrual products, particularly regarding superior quality, positive product reviews and environmental considerations. However, the considerable proportion of neutral responses suggests that some consumers remain uncertain about these aspects of menstrual products.

6.4. Chi-square Goodness-of-Fit Analysis

The Chi-square Goodness-of-Fit test was employed to determine whether the observed frequencies of consumer responses differed significantly from the expected frequencies. The analysis was conducted separately for the five attitude-related statements at a 5% level of significance.

Table 4: Chi-square Goodness-of-Fit Results for Consumer Attitudes

Consumer Attitude Statements	Chi-square (χ^2)	df	p-value	Decision
Willingness to try new menstrual products based on positive reviews	502.552	3	< 0.001	Reject H_0
Perception that menstrual product prices reflect quality	527.842	3	< 0.001	Reject H_0
Confidence in purchasing menstrual products without hesitation	446.199	3	< 0.001	Reject H_0
Preference for environmentally friendly menstrual products	441.132	3	< 0.001	Reject H_0
Willingness to pay higher prices for superior-quality menstrual products	527.489	3	< 0.001	Reject H_0
Source: Primary Data, SPSS Output. N = 589. Significance level: 0.05. Expected frequencies were equal across the four observed response categories.				

Interpretation:

Table 4 presents the Chi-square Goodness-of-Fit results for the five consumer attitude statements. All five statements recorded statistically significant Chi-square values at the 5% level of significance ($p < 0.001$). The Chi-square values ranged from 441.132 to 527.842, indicating significant differences between the observed and expected response frequencies. Consequently, the null hypothesis was rejected for all five statements. These findings demonstrate that consumer responses were not equally distributed across the observed response categories. When considered alongside the descriptive statistics and frequency distributions, the results indicate that agreement was the predominant response across all five attitude-related statements. Thus, the analysis provides evidence of generally favourable consumer attitudes towards product reviews, perceived quality, purchasing confidence, environmental friendliness and willingness to pay higher prices for superior-quality menstrual products.

7. FINDINGS

The major findings of the study are as follows:

- **Reliability of Consumer Attitudes:** The Cronbach's Alpha value of 0.862 indicates good internal consistency among the five statements used to measure consumer attitudes towards menstrual products.
- **Favourable Consumer Attitudes:** The mean scores of the five statements ranged from 3.77 to 3.81, indicating generally favourable consumer attitudes towards menstrual products.
- **Influence of Positive Product Reviews:** The findings revealed that 61.29% of respondents agreed and 9.51% strongly agreed that they were willing to try new menstrual products based on positive reviews, highlighting the relevance of product reviews in consumer evaluations.
- **Perception of Price and Quality:** Approximately 61.63% of respondents agreed and 8.32% strongly agreed that the prices of menstrual products reflect their quality, indicating a generally favourable perception of the price-quality relationship.
- **Confidence in Purchasing Menstrual Products:** The study found that 58.06% of respondents agreed and 10.36% strongly agreed that they could purchase menstrual products without hesitation. However, 30.22% expressed neutral opinions, suggesting that purchasing confidence is not equally established among all respondents.
- **Preference for Environmentally Friendly Products:** The findings indicated that 58.23% of respondents agreed and 11.71% strongly agreed that menstrual products should be environmentally friendly, reflecting favourable attitudes towards environmental considerations.
- **Willingness to Pay Higher Prices:** The study revealed that 62.31% of respondents agreed and 9.51% strongly agreed that they were willing to pay higher prices for superior-quality menstrual products. This recorded the highest combined agreement among the five statements.
- **Significant Differences in Response Frequencies:** The Chi-square Goodness-of-Fit test revealed statistically significant differences between observed and expected response frequencies for all five statements ($p < 0.001$). Consequently, the null hypothesis was rejected for all five statements.

8. CONCLUSION

The present study examined consumer attitudes towards menstrual products among 589 respondents in Karnataka, focusing on product reviews, price-quality perceptions, purchasing confidence,

environmental friendliness and willingness to pay higher prices for superior quality. The findings revealed generally favourable consumer attitudes, with mean scores ranging from 3.77 to 3.81. Frequency analysis indicated that most respondents expressed agreement with all five attitude-related statements, particularly regarding superior product quality and positive reviews. The reliability analysis established good internal consistency among the measurement items, while the Chi-square Goodness-of-Fit test identified statistically significant differences in response frequencies ($p < .001$). However, the considerable proportion of neutral responses suggests that some consumers remain uncertain about product-related attributes and purchasing considerations. The study highlights the importance of product quality, reliable information, environmental considerations and purchasing confidence in understanding consumer attitudes. Manufacturers and marketers may benefit from providing transparent product information, improving quality and promoting environmentally responsible alternatives. Future research could examine how these attitudes influence actual purchasing behaviour across different consumer groups.

REFERENCES:

1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T
2. Babbar, K., & Garikipati, S. (2023). What socio-demographic factors support disposable vs. sustainable menstrual choices? Evidence from India's National Family Health Survey-5. *PLOS ONE, 18*(8), Article e0290350. https://doi.org/10.1371/journal.pone.0290350
3. Chadha, T., & Sondhi, N. (2026). Sustainability versus comfort: Drivers for adoption of menstrual hygiene products. *International Journal of Indian Culture and Business Management, 39*(3), 392–412. https://doi.org/10.1504/IJICBM.2026.157421
4. Hennegan, J., Winkler, I. T., Bobel, C., Keiser, D., Hampton, J., Larsson, G., Chandra-Mouli, V., Plesons, M., & Mahon, T. (2021). Menstrual health: A definition for policy, practice, and research. *Sexual and Reproductive Health Matters, 29*(1), Article 1911618. https://doi.org/10.1080/26410397.2021.1911618
5. Negi, S., Tripathy, S., Sahoo, K. C., Shamim, M. A., Kumar, D., Mehta, V., & Behera, D. (2024). Menstrual cup adoption among reproductive age women in India: A systematic review and meta-analysis. *Women & Health, 64*(8), 648–661. https://doi.org/10.1080/03630242.2024.2394772
6. Poulose, J., Sharma, V., Kumar, M. D., & Bhattacharjee, S. (2024). Understanding purchase intention of menstrual products among rural Indian women: Periods are normal - period! *International Journal of Indian Culture and Business Management, 32*(1), 59–79. https://doi.org/10.1504/IJICBM.2024.138996
7. Shukla, S., Sanjeev, R., & Sharma, P. (2024). What drives women to adopt menstrual cups? The integration of consumer values and theory of planned behaviour. *Journal of Social Marketing, 14*(3/4), 347–364. https://doi.org/10.1108/JSOCM-08-2023-0175
8. Van Eijk, A. M., Sivakami, M., Thakkar, M. B., Bauman, A., Laserson, K. F., Coates, S., & Phillips-Howard, P. A. (2016). Menstrual hygiene management among adolescent girls in India: A systematic review and meta-analysis. *BMJ Open, 6*(3), Article e010290. https://doi.org/10.1136/bmjopen-2015-010290