Beyond Poverty: A Study of Diffusion & Adoption of Feminine Hygiene Products Among Low Income Group Women in Mumbai

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Abstract

India has a huge population base of women in the age group between 10-50 years. However, the market for feminine hygiene products is the least penetrated in India. An exploratory study was conducted regarding the diffusion & adoption of sanitary napkins along with its brand awareness among the low-income group women in Mumbai. This group was selected because of their lack of education and knowledge, limited financial resources and use of traditional menstrual hygiene products. The authors of this paper have attempted to use the conceptual framework of the Model of Diffusion of Innovation by Rogers (2003) and conceptual model of product adoption at Base of the Pyramid by Cheryl Nakata and Kelly Weidner (2012), to study the diffusion and adoption of feminine hygiene products to the target group. Working status, education, type of home and monthly household income were important influencers in usage or non usage of sanitary napkins. Sanitary napkins were perceived as essential but not a necessity product due to the affordability issue by the target group. It was concluded that in order to increase diffusion & adoption of sanitary napkins among the target group, companies in the business of feminine personal hygiene should provide affordable sanitary protection which can simultaneously help in achieving compelling social objectives in an emerging market like India.

Keywords: Demographic Profile & Market Structure, Feminine Hygiene Products, Diffusion & Adoption, Consumer Behavior, Marketing Opportunities, Low Income Group Women in Mumbai

1. Introduction

India is a land of contradictions with a favourable demographic profile. Even in the most progressive city like Mumbai which is considered to be the financial capital of India, one can observe extreme poverty and the very rich living adjacent to each other in hutments and high rise apartments, high end luxury cars and manually drawn push carts at a traffic signal, highly traditional and the very modern staying in the same locality, illiterates and highly tech savvy persons with the latest gizmos working together in the same office.

Out of the total Indian population of 1,210,193,422 (1.2 billion) in year 2011 (Census of India 2011, Censushinfo India Dashboard), the total population of females in India was approximately 586 million - 586,469,174 (urban 181,298,564 and rural 405,170,610). Further, the overall percentage of females in India in the
age group of 10-14 years was 10.3% (urban 8.8% and rural 10.8%) and the overall percentage of females in the 15-59 years was 62.8% (urban 66.9% and rural 61.3%) (Census of India 2011, Vital Statistics).

The population of Indian women between the age group of 10-50 years represents a huge opportunity with respect to the feminine hygiene products. The feminine hygiene products which constitute of intimate wipes, panty liners, tampons and sanitary towels/napkins, was an Indian Rupees 11,316.8 million market in value terms as of year 2011 and the breakup of the market was as follows: Sanitary Towels or Napkins (Indian Rupees 11,222.8 million), followed by pantyliners (Indian Rupees 65.1 million) and tampons (Indian Rupees 28.9 million) (Euromonitor International, 2012). The percentage value growth between the years 2006-11 was 14.3% for sanitary napkins or towels, 5.9% for pantyliners and 6.3% for tampons (Euromonitor International, 2012). The Indian market has been dominated by multinational companies with Procter & Gamble having a 54.8% of the market share, followed by Johnson & Johnson with 33.5% of the market share, and Kimberly-Clark Lever Ltd holding 3.4% of the market share (Euromonitor International 2012). The leading brands in the Indian market are P&G brand Whisper (54.8% market share), J & J brands Stayfree and Carefree (30.8% and 1.4% market share respectively), and Kimberly-Clark Lever Ltd brand Kotex (3.4% market share) (Euromonitor International). Almost 92% of the market for feminine hygiene products is held by the multinationals like P&G, J&J, and Kimberly-Clark Lever Ltd. Their brands of sanitary napkins like Whisper, Stayfree and Carefree are perceived to be premium positioned due to their price, packaging, various technologies being used to give superior product benefits, and their communication strategy.

However, the most disturbing aspect of feminine hygiene in India is that 70% of Indian women still cannot afford sanitary napkins during their menstrual cycle, the biggest hurdle for these women being affordability, which unfortunately leads to reproductive tract infections, dropping out of schools and absenting from the workplace (Sinha Kounteya, 2011). Many Indian women use traditional products like old cotton cloth during the menstrual cycle and there is a lot of hesitation surrounding discussions on menstrual health among the Indian women. The per capita consumption in US $ terms of feminine hygiene products in India is a paltry 0.13 as compared to 10.5 in Brazil, 3.0 in China, 8.3 in Russia, 35.0 in USA and 39.0 in Japan (Pancholi, B.S., Dr Naik.R. Sandeep, October 2008).

2. Purpose of research

The purpose of research was to find out the diffusion & adoption, buying behavior and perception with respect to feminine hygiene product like sanitary napkins among the low-income women in Mumbai city. Further, a study was conducted on the brand awareness, triggers for usage and barriers for non-usage of sanitary napkins by these low-income group women. An attempt was also made to find out the life context of these low income women through their educational qualifications, working status and ownership of consumer durables like color TV (with cable or dish facility), mobile phones etc.

3. Conceptual Framework

The bottom of the pyramid individual suffers from several interconnected deprivations (Chakravarti, 2006). According to Nakata Cheryl and Kelly Weidner (2012), the deprivations like poverty in terms of economic, physical, psychosocial or knowledge inhibit product innovation likelihood, speed and forms. They do so by making the products out of financial; less important in the face of more pressing priorities such as eating; challenging to process in the midst of major psychosocial setbacks; and unlikely to be understood because of literacy and numeracy obstacles. Products attributes like affordability, visual comprehensibility, adaptability, relative advantage and compatibility to lifestyle effect the product adoption at base of the pyramid (Fig.1).
Research shows that interpersonal communication profoundly impact adoption (Shih and Venkatesh, 2004). Hindustan Lever has also tailored its marketing activities to build brand awareness. The company makes widespread use of street performances – magicians, singers, dancers and actors – to promote products such as soap and toothpaste. Lever and Ogilvy Outreach, a marketing arm of Ogilvy & Mather, recruit local performers in areas that the company wants to target. Scripts are changed for different dialects, education levels, and religions (Anderson and Billou, 2007).

Ruth and Hsiung (2007) found that in South Africa, innovations enhancing family well being are favoured over those for individual well being. Hence, the factor named as collective need is not contributing to the product adoption at the BOP. Non-assimilationist culture is also predominantly found in the bottom of the pyramid, indicating their preference of retaining traditional values and ways of life brought by them from distant villages.

The diffusion of innovation theory by Rogers (Fig. 2), says that diffusion of an innovation occurs through a five–step process. This process is a type of decision-making. It occurs through a series of communication channels over a period of time among the members of a similar social system. According to Rogers (1962), the five stages involved in the adoption process are knowledge, persuasion, decision, implementation, confirmation. Through this working paper, the authors have made an attempt to study the intrinsic characteristics of innovation defined by Rogers that influence an individual’s decision to adopt or reject an innovation. The five factors are Relative Advantage, Compatibility, Complexity or Simplicity, Trialability and Observability.
Following the model, the prior conditions to the acceptance of Sanitary Napkins were that the Cloth has been used traditionally since ages by the decision-making unit (i.e. the mother and daughter). The felt need of using the sanitary napkins was found way below the threshold of perception in some cases, where the absence of the same was not considered as a problem.

During the exploratory research, it was observed that the target group of Bottom of Pyramid Women found the Sanitary Napkins to be relatively less advantageous to the traditionally used cloth due to the reusability factor. Compatibility in terms of assimilation in an individual’s life was also found to be low with sanitary napkins due to their present living conditions, where disposability was an issue. The complex brand architecture of sanitary napkins made their use even more difficult for the target group contributing to the third most important factor of Rogers Model. The study also revealed that Trialability is affected by the affordability of sanitary napkins as most of the respondents belonged to bottom of pyramid. It was found that consumers belonging to low income groups perceived personal hygiene products like sanitary napkins to be a desirable item rather than a necessity.

4. Research Method

Since the respondents belonged to low-income group and were not English speaking, it was decided to conduct a primary research, first through in-depth interviews and then a survey using a structured questionnaire. The questionnaire was developed in English but was translated into the vernacular language Hindi by the researchers for ease of understanding by the respondents. The method of sampling was convenience sampling with a sample size of 50 women were selected. The selection of the sample of respondents was based on their place of work like beauty parlors, sales girls in retail shops, domestic maid servants, housewives staying in low income housing colonies, sweepers in an office etc.
5. Analysis and Findings

5.1 Secondary data
The brand architecture for brand: 
Whisper from P & G was as follows (P&G India Website): Whisper – 20 SKUs 
Stayfree and Carefree from J & J (J & J Website) was as follows: 
Stayfree – 12 SKUs 
Carefree - 2 SKUs 
Brand architecture for Kotex (Kimberly Clark Website) - 2 SKUs

5.2. Primary data (quantitative analysis)

Table 1: Independent Sample T Test differentiating between Users and Non Users of Sanitary Napkins

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sig.(2-tailed)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.141</td>
<td>Null hypothesis is accepted at 5% level of significance</td>
</tr>
<tr>
<td>Working Status</td>
<td>0.052</td>
<td>Null hypothesis is accepted at 5% level of significance</td>
</tr>
<tr>
<td>Education</td>
<td>0.005</td>
<td>Null hypothesis is rejected at 5% level of significance</td>
</tr>
<tr>
<td>Nature of Work</td>
<td>0.969</td>
<td>Null hypothesis is accepted at 5% level of significance</td>
</tr>
<tr>
<td>Type of Home</td>
<td>0.025</td>
<td>Null hypothesis is rejected at 5% level of significance</td>
</tr>
<tr>
<td>Monthly Household Income</td>
<td>0.018</td>
<td>Null hypothesis is rejected at 5% level of significance</td>
</tr>
</tbody>
</table>

• Both the groups of users and non-users of Sanitary Napkins are drawn from the same population; hence Independent Sample T Test was conducted to test whether there exists difference between the samples in terms of variables like Working Status, Nature of Work, Education and Monthly Household Income. 
• H0: There is no difference between user and non-user groups based on the independent variables. 
• H1: There is significant difference between user and non-user groups based on the independent variables. 
• At 95% confidence level, it was found that the User and Non User groups differ from each other in terms of Working Status, Education and Monthly Income (p<0.05, hence null hypothesis rejected).

Table 2: ANOVA- Product Usage Patterns and Demographics for Current Users of Sanitary Napkins

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Statistical Test for Significance</th>
<th>Analysis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>HA1 Impact of Age on the current product used</td>
<td>One Way ANOVA</td>
<td>.169</td>
<td>Null hypothesis is accepted at 5% level of significance</td>
</tr>
<tr>
<td>HA2 Impact of Working Status on the current product used</td>
<td>One Way ANOVA</td>
<td>.043</td>
<td>Null hypothesis is rejected at 5% level of significance</td>
</tr>
</tbody>
</table>
• One way ANOVA was done between the Demographics like Age, Working Status, Education, Nature of Work, Type of Home and Monthly Household Income and product used currently (User-Sanitary Napkins and Non-User- Cloth) to test if the variables had significant impact on the pattern of current product usage.

• At 95% confidence level, looking at p values, it was inferred that Age and Nature of Work had no significant impact on the usage patterns whereas variable like Working Status, Education, Type of Home and Monthly Household Income significantly impact the usage patterns.

Table 3: ANOVA- Consumer Perception for Sanitary Napkins and Demographics

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Statistical Test for Significance</th>
<th>Analysis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>HA1 Impact of Age on consumer perception</td>
<td>One Way ANOVA</td>
<td>.959</td>
<td>Null hypothesis is accepted at 5% level of significance</td>
</tr>
<tr>
<td>HA2 Impact of Working Status on consumer perception</td>
<td>One Way ANOVA</td>
<td>.565</td>
<td>Null hypothesis is accepted at 5% level of significance</td>
</tr>
<tr>
<td>HA3 Impact of Education on the consumer perception</td>
<td>One Way ANOVA</td>
<td>.071</td>
<td>Null hypothesis is accepted at 5% level of significance</td>
</tr>
<tr>
<td>HA4 Impact of Nature of Work on consumer perception</td>
<td>One Way ANOVA</td>
<td>.630</td>
<td>Null hypothesis is accepted at 5% level of significance</td>
</tr>
<tr>
<td>HA5 Impact of Type of Home on consumer perception</td>
<td>One Way ANOVA</td>
<td>.075</td>
<td>Null hypothesis is accepted at 5% level of significance</td>
</tr>
<tr>
<td>HA6 Impact of Monthly Household Income on consumer perception</td>
<td>One Way ANOVA</td>
<td>.001</td>
<td>Null hypothesis is rejected at 5% level of significance</td>
</tr>
</tbody>
</table>

• One-way ANOVA was also conducted between the above-mentioned variables and the perception of respondents towards Sanitary Napkins. With the analysis, it was found that the variable Monthly Household Income plays a significant role in building perceptions about Sanitary Napkins as a desirable but not necessity product.
• Hence, it can be inferred that consumers belonging to low income groups perceived personal hygiene products like sanitary napkins to be a desirable item rather than a necessity.

6. Major results

• The respondents mostly were of age group 18-40 yrs both working and Non-working. The education levels of the females were found not more than 12th grade. The nature of work varied from domestic help, beauty parlor, salesgirls, sweepers etc.
• It was found that 90% of them owned premium products like smart phones, colour TV with cable connection, and personal vehicles like motorbike.
• The major sources of information channels predominant for these low-income groups were through community sources and vernacular newspapers and vernacular TV news channels.
• Brands Whisper (P & G) and Stayfree (Unilever) were popularly known among the low-income group women.
• It was found that despite being aware of the harmful effects of using cloth, some women continued using cloth as they found cotton cloth to be more absorbent, easy to wash and re-use, with no issue of disposal (as with a used sanitary napkin). These females were resistant to the use of sanitary napkins as they perceived it to be unaffordable.
• The usage patterns were found to be dependent on the time and place of use. They used sanitary napkins when they were at the work place and cloth when at home.
• It was also found that the consumers were not aware of the numerous variants of sanitary napkins that exist in the market.
• The women identified the brands to be used by either price points or colour of the packaging.
• Both the groups of users and non-users of Sanitary Napkins are drawn from the same population; hence Independent Sample T Test was conducted to test whether there exist difference between the samples in terms of variables like Working Status, Nature of Work, Education and Monthly Household Income. At 95% confidence level, it was found that the User and Non User groups differ from each other in terms of Working Status, Education and Monthly Income (p<0.05, hence null hypothesis rejected).
• One way ANOVA was done between the Demographics like Age, Working Status, Education, Nature of Work, Type of Home and Monthly Household Income and product used currently (User-Sanitary Napkins and Non-User-Cloth) to test if the variables had significant impact on the pattern of current product usage. At 95% confidence level, looking at p values, it was inferred that Age and Nature of Work had no significant impact on the usage patterns whereas variable like Working Status, Education, Type of Home and Monthly Household Income significantly impact the usage patterns.
• One-way ANOVA was also conducted between the above mentioned variables and the perception of respondents towards Sanitary Napkins. With the analysis, it was found that the variable Monthly Household Income plays a significant role in building perceptions about Sanitary Napkins as a desirable but not necessity product.

7. Implications

The most important understanding that emerges from the above study is that if the products are priced appropriately based on the ability to pay of the Indian women, appropriate consumer education is conducted through communication regarding the ill effects of using cloth during the menstrual hygiene, better diffusion & adoption of the sanitary napkins will take place among the target group. By suitably adapting the marketing mix for sanitary napkins to appeal to the lower and bottom of pyramid women, a huge amount of marketing opportunity can be tapped by the companies, at the same time fulfilling a very important and essential social objective of providing basic sanitary hygiene to women at the lower end of the economic strata.
The limitation of this study was in terms of the sample size and the difficulty in conducting interviews among the lower income group women.

References


