A STUDY ON CONSUMER PREFERENCE OF PRODUCTS IN THE ORAL HEALTH CARE SEGMENT

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ABSTRACT:

The report consists of a research on ‘Consumer preference of product in the oral health care segment’. The topic focuses on the changing consumer preference from oral health care products to herbal oral health care products. It takes into consideration, on an average how much the consumer spends on oral health care? Would people consider using chewing gum? And is the use of herbal toothpaste independent of educational qualification. The test used to analyze this data includes the chi test, t-test and p-test.

INTRODUCTION:

This project is based on the aspect of consumer preference with respect to oral health care products in India. The project revolves around the consumer’s preference when it comes to purchasing an oral health care product such as Toothpaste, Toothbrush and Mouthwash. The factors that influence the consumers to make their decision while purchasing a product are also discussed.

In ancient times, consumers in India used traditional substances like Neem twigs for keeping their teeth clean and healthy. However, slowly oral health care products started replacing the traditional methods of maintaining oral hygiene. The trend is changing and there are many factors that influence consumers while making a purchase decision of oral health care products. Consumers have a wide variety of choice in terms of oral health care. Toothpastes of various variants like gel, powder and paste are present in market cater to needs of all the segments. A lot of herbal and medicated toothpaste have anti-sensitivity and natural properties are creating niches for themselves in market. This study mainly deals on understanding the factors that impact consumer preference of products in oral health care segment.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>SEGMENT</th>
<th>DEFINATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouthwash</td>
<td>Medicinal mouthwash</td>
<td>Those mouthwashes that act on medical complaints such as halitosis, gingivitis or gum disease.</td>
</tr>
<tr>
<td></td>
<td>Standard Mouthwash</td>
<td>Those mouthwashes with mouth freshening, whitening or dental action properties.</td>
</tr>
<tr>
<td>Toothbrush</td>
<td></td>
<td>The toothbrush is an oral hygiene instrument used to</td>
</tr>
</tbody>
</table>
clean the teeth and gums that consists of a head of tightly clustered bristles mounted on a handle, which facilitates the cleansing of hard to reach areas of the mouth.

<table>
<thead>
<tr>
<th>Toothpaste</th>
<th>Bicarbonate of soda toothpaste</th>
<th>Any toothpaste containing bicarbonate of soda.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cosmetic toothpaste</td>
<td>Toothpaste with whitening effect or properties. E.g. Colgate Total Plus Whitening Toothpaste</td>
<td></td>
</tr>
<tr>
<td>Specialist Toothpaste</td>
<td>Toothpaste for sensitive teeth, children’s toothpaste etc. Eg.Sensodyne</td>
<td></td>
</tr>
<tr>
<td>Standard Toothpaste</td>
<td>Toothpaste without whitening effects or bicarbonate of soda.</td>
<td></td>
</tr>
</tbody>
</table>

**LITERATURE REVIEW**

Most of us, after getting up in the morning, have been reaching out for a toothbrush and a tube of toothpaste for many years now. Brushing is so much a part of our daily activity that it can now be considered a habit. It is this habit that gives rise to oral health care market. Currently nearly 97% of population uses at least one variety of toothpaste and more than 80% of this population brushes twice daily. In India, oral care market offers huge potential as penetration and per capita consumption is very low. However, rising per capita income and increase in awareness is driving demand of oral care products. Consumers have started switching to value added toothpastes like mouthwashes, teeth whitening products and gels. In rural areas, consumers are switching to toothpastes from tooth powder. A key industry trend is to move towards natural products comprising of herbs vitamins and minerals.

Oral health care is Notable launches within toothpastes, in line with company’s strategy included Colgate Sensitive Pro-relief, Enamel Repair toothpaste and Colgate visible white.

Government has taken various initiatives like dental health camps to promote good oral health care. Manufacturers have used advertising campaigns to promote use of toothbrush, toothpaste and mouthwash.

**Recent products with marketing strategy:**

Haridwar based Patanjali Ayurved, run by yoga guru Baba Ramdev, and has garnered a 4.5% market share in toothpaste segment. Colgate Palmolive, the sector leader, has lost its market share by 60 basis points. (100 basis points = 1% point) to 57.3%. In an attempt to boost market share, Patanjali Ayurved is beefing up its main toothpaste brand, Dant Kanti, with variants like medicated, advance and junior. (Times of India Business, Jan 9 2016)
In India, consumers believe strongly in natural ingredients. A toothpaste launching this quarter under the Cibaca sub-brand is Colgate Cibaca Vedshakti. There is a growing preference for products that are said to have “natural” ingredients – these now accounts for 13-14% of the overall toothpaste market. (Economic Times) (Economic Times, 29 August 2016)

**RESEARCH OBJECTIVES**

The objective of this study is to understand the consumer preference related to oral health care products. The objectives are as follows:

To know consumer’s preference about oral health care products purchased.

Have an understanding of oral health care products

To study the demographic factors influencing purchase decision of oral health care products

To find out whether various age group people have different choice of the products

To know the customer satisfaction level about oral health care products.

To access the consumer satisfaction towards oral health care products.

**RESEARCH METHODOLOGY:**

**RESEARCH DESIGN:**

Descriptive study was carried out based on random sampling method using a Questionnaire. We sent out 90 invitations out of which we received 80 responses. The respondents selected for study were chosen on the basis of demographic variables like age, income, gender, profession and education. The main reason for choosing these variables was to get an overall representation of population.

Analytical Test conducted: The tests used to analyze the data are t-test (test of means) p-test (test of proportions) and chi test (test of independence).

**DATA SOURCE**

**PRIMARY DATA:**

Primary data is first hand data which are selected a fresh and thus happen to be original. Questionnaire was used to collect primary data. The number of response were 80.

**SECONDARY DATA:**

Secondary data are those which has been collect by someone else and which already have been passed through statistical process. Secondary data is collected from internet based sources.
Secondary data formed the conceptual background and was compared with primary data collected.

**SAMPLING:**

**GRAPHS:**

**Gender:**

- 52% Male
- 48% Female

The gender does not affect the oral hygiene products. The marketers do not divide the market into smaller segments based on gender. Both the genders equally use oral health care products.

**QUALIFICATION:**

- 60% Graduation
- 24% SSC
- 9% HSC
- 5% Post-Graduation
- 2% Others

The people who have completed a certain level of education tend to use and purchase more of branded products for oral hygiene than the people who are less educated. People who are less educated may still tend to follow traditional methods to maintain oral hygiene. For example, people who are less educated may use babool twigs.

**Income:**
Marketers divide the consumer into small segments as per their income. Individuals are classified into segments according to their monthly earnings. The three categories are; high, middle, and low income earners group. People with higher level of income would tend to buy various variants of oral hygiene products than the people with low income. For example people with higher income would prefer to buy Closeup diamond attraction which is expensive and people with lower income would buy Patanjali which is less expensive.

Majority of people i.e 36% prefer using toothpaste of Mint flavor rather than other flavors like Active salt, Cinnamon-clove, Mint, Charcoal, Herbal.
MOUTHWASH USE OR NOT

From this pie chart, it shows that 56% of population prefers using Mouthwash and 44% of population does not prefer using Mouthwash.

TOOTHPASTE [For which Product which Brand do you use]

As per the chart, more than 50% of population use toothpaste of Colgate brand as compared to those other brands such as Close Up, Patanjali, Sensodyne and Pepsodent.

Which factors influence you to purchase the Oral Health Care Products

In terms of factors that influence the purchase of oral health products, Quality of a product is one of the factor that accounts to 66.70% which is highest among other factors such as price, quantity, packaging, brand image and flavor that influences the purchase decision of oral health care products.
**HYPOTHESIS 1:**

**T-TEST**

Ho: Average spending on oral health care is not 100 per month.

Ha: Average spending on oral health care is 100 per month.

<table>
<thead>
<tr>
<th>N</th>
<th>H₀: µ ≠ 100</th>
<th>Variable 1</th>
<th>Variable 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Hₐ: µ = 100</td>
<td>308.60</td>
<td>100.00</td>
</tr>
<tr>
<td>T</td>
<td>right tail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>t test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>t observed</td>
<td>14.53</td>
<td>208.6 = (x' - µ) / (s / sqrt(N))</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>reject the null</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Mean     | 308.60 | 100.00 |
| Variance | 16,477.41 | - |
| Observations | 80.00 | 80.00 |
| Pearson Correlation | #DIV/0! | - |
| Hypothesized Mean Difference | - | - |
| Df       | 79.00  |        |
| t Stat   | 14.53  |        |
| P(T<=t) one-tail | 0.00 | 1.66 |
| P(T<=t) two-tail | 0.00 | 1.99 |

Rejection region

(7.19)
Business Remark: Data pertaining to average spending on oral health care is presented in T-test. The T-test revealed that average monthly spending in oral health care is Rs.100/- per month. Since average monthly spending on oral health care is Rs.100/- per month, Oral health care industries should make products that are available to consumers that are below Rs.100/-.

**P test**

Ho: More than 90% do not brush once a day

Ha: More than 90% brush once a day

$H_0 : p < 90\%$

$H_a : p > 90\%$

Right-tailed p-test

Confidence = 99\%

$\alpha = 1\%$

Probability = 99.0\%

$Z_{critical} = 2.33$

$Z_{observed} = (18.01)$

\[
\begin{array}{c}
0.300 \\
8.94 \\
\end{array} \begin{array}{c}
p^*q \\
sqrt(n) \\
\end{array} = 80 \\
= 29.60\%

p' = 90\%$

q = 10\%

$p'^{-p} = -60\%$

$p^*q = 9.00\%$

$sqrt(n) = 80.00$

**REJECT THE NULL**
Business Remarks: With a view to find the brushing frequency of consumers, the data pertaining to this is presented in P-test. The P-test revealed that the frequency of brushing once a day is more that 90%. So the frequency of brushing once a day is more, ideally consumers should be brushing at least once a day to avoid dental problems. We see a lot of changing perception on importance of oral hygiene among youths.

P-TEST
Ho: \( p < 60\% \) More than 60% population say that they would not consider using chewing gum.
Ha: \( p > 60\% \) More than 60% population say that they would consider using chewing gum
Data pertaining to population that would consider using chewing gum is presented in P-test. According to P-test more than 60% of population would consider using chewing gums. Chewing gums prevents bad breath. Some chewing gums also provide whitening of teeth and it also provides instant freshness.

CHI SQUARE

H₀: Use of herbal toothpaste is independent of educational qualification.
Hₐ: Use of herbal toothpaste is not independent of educational qualification.
<table>
<thead>
<tr>
<th>Row Labels</th>
<th>ACTIVE SALT</th>
<th>CHARCOAL</th>
<th>CINNAMON-CLOVE</th>
<th>HERBAL</th>
<th>MINT</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRADUATION</td>
<td>11.31</td>
<td>8.33</td>
<td>7.14</td>
<td>5.36</td>
<td>17.86</td>
<td>50.00</td>
</tr>
<tr>
<td>HSC</td>
<td>1.81</td>
<td>1.33</td>
<td>1.14</td>
<td>0.86</td>
<td>2.86</td>
<td>8.00</td>
</tr>
<tr>
<td>NONE</td>
<td>0.45</td>
<td>0.33</td>
<td>0.29</td>
<td>0.21</td>
<td>0.71</td>
<td>2.00</td>
</tr>
<tr>
<td>POST-GRADUATION</td>
<td>4.52</td>
<td>3.33</td>
<td>2.86</td>
<td>2.14</td>
<td>7.14</td>
<td>20.00</td>
</tr>
<tr>
<td>SSC</td>
<td>0.90</td>
<td>0.67</td>
<td>0.57</td>
<td>0.43</td>
<td>1.43</td>
<td>4.00</td>
</tr>
<tr>
<td>Grand Total</td>
<td>19</td>
<td>14</td>
<td>12</td>
<td>9</td>
<td>30</td>
<td>84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Row Labels</th>
<th>ACTIVE SALT</th>
<th>CHARCOAL</th>
<th>CINNAMON-CLOVE</th>
<th>HERBAL</th>
<th>MINT</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRADUATION</td>
<td>0.64</td>
<td>0.21</td>
<td>0.48</td>
<td>0.34</td>
<td>0.19</td>
<td>-</td>
</tr>
<tr>
<td>HSC</td>
<td>0.78</td>
<td>1.33</td>
<td>1.14</td>
<td>1.52</td>
<td>0.01</td>
<td>-</td>
</tr>
<tr>
<td>NONE</td>
<td>0.452380952</td>
<td>1.33</td>
<td>0.285714286</td>
<td>2.88</td>
<td>0.7142857</td>
<td>-</td>
</tr>
<tr>
<td>POST-GRADUATION</td>
<td>1.41</td>
<td>0.83</td>
<td>0.26</td>
<td>0.61</td>
<td>1.14</td>
<td>-</td>
</tr>
<tr>
<td>SSC</td>
<td>0.90</td>
<td>0.17</td>
<td>0.32</td>
<td>0.76</td>
<td>0.13</td>
<td>-</td>
</tr>
</tbody>
</table>
CONCLUSION:

Consumer preference is not exactly predicted one, somewhat is predicted with the help of research activity. Oral health care market offers huge varieties of products. Increasing awareness is driving demand of oral health care product. An attempt has been made to outline some herbal and medicated oral care products that are creating niches for themselves which can be used as effective alternative.

The research shows that customers were price sensitive but the changing market trend and customer views and preference shows that more than 50% customers are now quality sensitive. Since the consumer buying preference is important factor to forecast the sales of any product so companies should keep a close eye on market strategy. Research shows changing perception on importance of oral hygiene among young generations. My recommendation to companies like Colgate would be to come up with chewing gums like happy dent which would provide whitening, freshness and prevents bad breath because as per our research more than 60% consumers would prefer using chewing gums. I would also recommend companies to launch various toothpaste having different flavors so that consumers increase their frequency of brushing daily. Increase in frequency of brushing daily means increase in sales. Increase in sales would eventually result in increasing profits. Since there is a growing trend of using herbal toothpaste companies should launch herbal and medicated toothpaste.

LIMITATIONS:

1. The scope of the study is limited for consumer preference for oral health care products.
2. Integrating additional methods of data collection could have increased the scope and depth of analyses.
3. The depth of discussion in this research paper is comprised in many levels compared to work of experienced scholars.
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