A Study of Consumer Buying Behaviour of Package Drinking Water

Maeena Naman Shafiee
Dept. of Food Technology,
Amity University, Noida, Uttar Pradesh, India

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ABSTRACT *Indian bottled drinking water industry is driven by the events of unpredicted water shortage and health consciousness that has started to develop in the people. The market of bottled water is dominated by certain players from past few years since it is very competitive. The main marketing competition among the players is that of packaging and attractive labelling which gathers them huge consumer base. Thanks to the low pricing and attractive marketing strategies Packaged Drinking water is now a product chosen by masses. Introduction in the rural areas is the main factor responsible for the development of this industry. Its further development depends on the consumer awareness about its benefits and acceptance. This research discusses the consumer buying behaviour and the acceptability of the same among the people of the research area.*

Key Words: *Packaged drinking water, consumer acceptability, Comparative study.*

Introduction:

Top Players in the Indian market: The main market share is that of Bisleri International which is 40 %, next comes Kinley (around 25 %) and then Aquafina (10 %) rest is followed by the local market players in the market (20-25 %) [1]. One of the great way developed by Parle Agro and PepsiCo is that of capacity enhancement which is the only way of surviving the competition.
Bottled water is highly acceptable with the consumers because:

1. Awareness about unclean potable water.
2. Mineral deficiency in municipal water
3. Good marketing strategies by companies
4. High availability and cheap pricing

Public Health Aspects: Though the industry is flourishing there are certain aspects which need to be kept in mind.

1. Poor regulation by states
2. Poor shelf life and uncertain microbiological stability
3. Suspicious water source.

Trends in Packaged Drinking Water

1. New packaging varieties
2. New market competitors
3. Launch of flavoured water in the sector
4. Natural mineral water from India ruling international market

Reasons for Growth of Packaged Drinking Water in India

1. Lack of potable water
2. High health awareness in consumers
3. Growth of polluted water bodies
4. Growth of tourism in India leads to the use of bottled water as visitors prefer bottled water to tap water

Challenges of Packaged Drinking Water

1. Poor transportation to rural areas
2. High competition
3. Treat from local cheap products
4. Easy and cheap availability of water purifiers

Future Opportunities.

1. Increasing population will lead to the abundant use of packaged drinking water.
2. Increase in the capacity building to meet the future demand and also up gradation due to new laws will lead to better quality water.

3. Less availability of potable water in rural areas will lead to increase in use of Bottled water.
4. Introduction of R.O. purifiers at domestic level has been very successful but has hit the market of bottled water hard, therefore for players to maintain their space in the market it is important for them to be cheap, profitable and also maintain high quality. (3-14)

Materials and Methods: This research deals with the study of consumer acceptability of the Bottled water available in the state of Jammu and Kashmir (Kashmir division). The research technique adopted was that of primary data collection done by questionnaires.

Objectives of the Study: Research design for Field work and Primary Data collection.

1. To study the consumer acceptability of various brands as per quality, price, and monthly consumption.
2. To identify the methods used for quality determination by consumers.
3. To know the acceptance of various convenient packing sizes offered by major players and their acceptance.
4. To ascertain the brand loyalty of the consumers.
5. To locate the maximum market sector for PDW.
6. To identify the brand with maximum market share.
7. To study and analyse the market complaints from consumer 2 business.

Limitations of the Study:

1. The questionnaire was filled mainly by the respondents of Srinagar. Therefore the overall consumer acceptability of the state can't be gauged on this study.
2. Some of the respondents had no knowledge regarding few areas of research thus gave a random answer

Selection of sample and Geographical Area.

Sampling is a procedure to take few among the lot as a significant value for the representation of the bulk. Ideally larger the sample more representative is it in nature. Totally 50 respondent surveys were collected on the basis of the proportionate random sampling method. This formed the total volume of the study. The results were interpreted for percentage analysis, mean and ANOVA analysis. The sampling was restricted to Srinagar City mainly.

Sources of the Data:

Primary Data was the main source of data collection. Data regarding socioeconomic behaviour and attitudes, opinions, awareness, knowledge, motivation and buying behaviour of the consumer market was studied. The main means of obtaining this data was surveys. For this research Questionnaire was the source of primary data which was used to collect the data about the consumer market.

Data Editing and Statistical tools

The data collected was first tabulated into pie and bars for easy evaluation of the data

- Frequency distribution for the data analysis
- Percentage calculation was used to give a certain percent value for a data and represents the data in a better form.
- Mean is the main or the central value of the probability distribution.
- ANOVA helps us to analyse the differences among the group means of variables.

Overview of the questionnaire.

The questionnaire was framed on the following research questions.

1. Why do people prefer bottled water over municipal water supplies?
2. Does pricing of the bottle affect the consumer buying behaviour?
3. How does a consumer gauge the quality of the bottled water he ought to purchase?
4. Does the variety of convenient packaging available with the consumer affect its buying behaviour?
5. Why are consumers more loyal towards one brand than the other?
6. Does packaging and bottle design affect the consumer's acceptability towards the brand he purchases?
7. Does the consumer often give feedback to the brand he purchases for the companies continuous improvement?

Formulation of the hypothesis

For testing purpose the research questions were used in the formulation of the hypothesis:

Ho: There is no significant relationship between occupation of the consumer and the acceptability of the bottled water.

H1: There is a significant relationship between occupation of the consumer and the acceptability of the bottled water.

Ho: There is no significant relationship between the price and the consumer buying behaviour

H2: There is a significant relationship between the price and the consumer buying behaviour.

Ho: There is no significant relationship between quality of the product and the consumer buying behaviour

H3: There is a significant relationship between the quality of the product and the consumer buying behaviour.

Ho: There is no significant relationship between the market rapport of the brand and the consumer buying behaviour.

H4: There is a significant relationship between the market rapport of the brand and the consumer buying behaviour.

Ho: There is no significant relationship between the availability of the brand and the consumer buying behaviour.

H5: There is a significant relationship between the availability of the brand and the consumer buying behaviour

Ho: There is no significant relationship between the visual acceptance and the consumer acceptability

H6: There is a significant relationship between the visual acceptance and the consumer acceptability

Ho: There is no significant relationship between the acceptable taste and odour and high consumer acceptability

H7: There is a significant relationship between the acceptable taste and odour and high consumer acceptability.

Ho: Market rapport does not affect the acceptability of the brand

H8: Market rapport affects the acceptability of the brand

Ho: There is no significant relationship between the type of the convenient packaging offered and the consumer acceptability.

H9: There is a significant relationship between the type of the convenient packaging offered and the consumer acceptability.

Ho: Attaining Regular feedback does not affect the continuous improvement of the brand.

H10: Attaining Regular feedback affects the continuous improvement of the brand.

Understanding Variables: Consumer acceptability Vs Consumer buying behaviour:

Consumer buying behaviour is the summation of the overall decisions of the consumer his intentions, preferences, behaviour and decisions in a marketplace regarding a product. It includes detailed analysis of psychology anthropology, sociology and economics relating to the consumer there and then.

Consumer acceptability is the level of preference to a product due to its parameters like taste, quality, odour and price. It is different from consumer buying behaviour because it deals with the technical aspects of the product and every consumer may have his list of preferences due to certain parameters.

The common example may include: two companies are manufacturing apple juice A and B. The A product is more liked by consumers due to its better taste. This is consumer acceptability. The buying behaviour which is thought to be positive towards the product A may change because of the low availability of the product in the market place or due to the poor advertising of the same. Buying behaviour depends on the consumers broader intentions to buy this product. It may be acceptable but the buying behaviour towards the same may also be poor at the same time.

Buying behaviour has the following steps:

1. Recognising the Need for the product
2. Finding the source to buy
3. Finding the alternatives
4. Making a purchase decision
5. Purchasing
6. And post purchase evaluation.

In the post purchase evaluation a consumer comes to the conclusion of whether the product is **acceptable to** him or not.

Fig 1: Alternate Hypothesis (H1, H6, H7, H8) of the Research

Fig 2: Alternate Hypothesis (H2, H3, H4, H5, H7, H8, H9) of the Research

Findings and Discussion: Key findings of the Primary data evaluation:

1. **Interpretation of the ANOVA Hypothesis**: After conducting the ANOVA test on the data sets it was found that the variables had no significant relation on each other. The null hypothesis for each was accepted the reasons for the same are stated below.

- **Ho: There is no significant relationship between occupation of the consumer and the acceptability of the bottled water.**
  It was found the P value of the test was 1 and the F value is 0.1. Since the P value is greater than F value the null hypothesis is accepted. Though the frequency distribution showed which occupation preferred the bottle water more but no significant relation between the two variables was seen. This means that merely by stating that more the number of doctors more the sales for the bottled water industry is probably not true.

- **Ho: There is no significant relationship between the price and the consumer buying behaviour**
  It was found the price had no effect on the consumer buying behaviour because of the F value was 0.1 and the P value is 1. Due to which the null hypothesis is accepted.
  Dependence on price by consumers can lead to the purchase of poor quality bottled water under cheap price scheme. This reduces the consumer's intake of quality water which is replaced by cheap bottled water product. Frequency distribution proves that consumers consider quality as their prime factor for choosing the brand to purchase.

- **Ho: There is no significant relationship between quality of the product and the consumer buying behaviour.**
  It was seen that no significant relation was seen between quality of the product and the consumer buying behaviour because of the test results (F value was 0.1 and the P value is (1.) Also it because

merely improving the quality will not give an assertive relation with the buying behaviour since the other competitors are present as noise to the data.

- **Ho: There is no significant relationship between the market rapport of the brand and the consumer buying behaviour.**
  It was analysed that though the market rapport of the company is good it does not necessarily mean that the buying behaviour of the consumers towards the same will increase. This is because of the noise in the environment like low availability in an area, competitor's better marketing and strategic marketing schemes this brings the competitors neck to neck and thus the absolute probability of one improving the sales over the other is nullified.
  (F value was 0.1 and the P value is 1.)

- **Ho: There is no significant relationship between the availability of the brand and the consumer buying behaviour.**
  It was proved statistically that there is no relationship between the high availability of the product and the assertive buying behaviour. A company under monopoly may have 100 % market share and the sales of the same may increase but it doesn't necessarily mean that once the forced consumer consumption is stopped. High availability in competition is still going to have an assertive buying behaviour.
  (F value was 0.1 and the P value is 1.)

- **Ho: There is no significant relationship between the visual acceptance and the consumer acceptability**
  Frequency distribution proves that people prefer the clean non turbid water the most but since the competitors(noise to the data) in the business all have the same set standard to be worked and accepted, the visual appearance of almost all the bottled water brands is the same. Also the taste and odour with the Packaging requirements may affect the acceptability. The probability of having a clear water in relation to the acceptability is nullified.
  (F value was 0.1 and the P value is 1.)

- **Ho: There is no significant relationship between the acceptable taste and odour and high consumer acceptability.**
  Frequency distribution proves that people prefer the water that has a neutral taste the most but since the competitors (noise to the data) in the business all have the same set standard to be worked and accepted, the taste and odour will not be enough for the sales to rise. Since the noise to the data and the variation in the same may prove that other factors are also judged upon the consumption like visual acceptance, pricing and packaging requirements. This may affect the acceptability. The probability of having a assertive relationship merely on the neutral tasted water to the acceptability is nullified. (F value was 0.1 and the P value is 1.)

- **Ho: Market rapport does not affect the acceptability of the brand**
  It was analysed that though the market rapport of the company is good it does not necessarily mean that the consumer acceptability towards the same will increase. This is because of the noise in the environment like low availability in an area, competitor's better marketing and strategic marketing schemes this brings the competitors neck to neck and thus the absolute probability of one improving the sales over the other is nullified. (F value was 0.1 and the P value is 1.)

- **Ho: There is no significant relationship between the type of the convenient packaging offered and the consumer acceptability**.
  Though frequency distribution proved that people preferred one type of pack size but the probability of offering only that pack size and increasing the consumer acceptability is nil. This is because a consumer changes his preference as per the need. Data involving People working in schools and colleges found that 500 ml-1 litre was generally preferred but in offices and houses 20 litre jars were equally important. Therefore no probability of assertive acceptability is seen. (F value was 0.1 and the P value is 1.)

- **Ho: Attaining Regular feedback does not affect the continuous improvement of the brand.**
  Frequency distribution showed that not lot of people give feedback. It was found that the assertive relation could only be made when the companies work on the feedback. Only then the probability of improvement may increase. (F value was 0.1 and the P value is 1.)

Key findings of the Frequency Distribution:

1. Lost market of Bottled Industry yet to gain trust in production.
2. Top three market players rule the sector.
3. Mass consumption by the consumers yet to be in place.
4. Good quality is the prime parameter for selection
5. Basic sensory attributes must for consumer acceptability.
6. Packaging and bottle designing that are easy to carry are preferred the most by the consumers.
7. The volume must be enough as per utility.
8. Brand Loyalty Not too Common.
9. No consumer feedback is generally provided.
10. Overall Consumer satisfaction above satisfactory.

1. **Lost market of Bottled Industry yet to gain trust in production:** It was found that nearly half of the population still avoids drinking bottled water because they are suspicious of the quality of the source because of this suspicion there is a huge loss of the consumer base which still need to be taken under confidence.

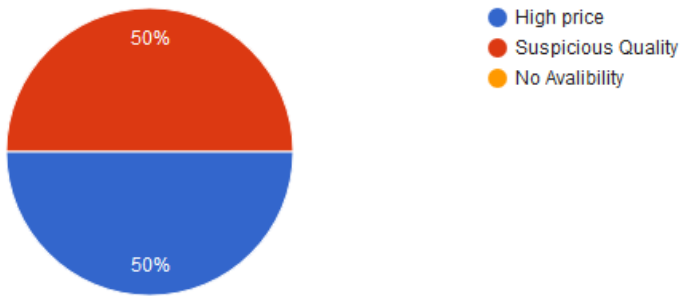

Fig 3: Reasons for not consuming Bottled Water.

S.NO	Elements	Frequency (fx)
1.	High Price	4
2.	Suspicious Quality	4
3.	No availability	0

Table 1: Frequency for reasons for not consuming bottled water

2. **Top three market players rule the sector:** The top three leading brands that include Bisleri, Aquafina and Kinley have the maximum market share. And are the most preferred by the consumers .

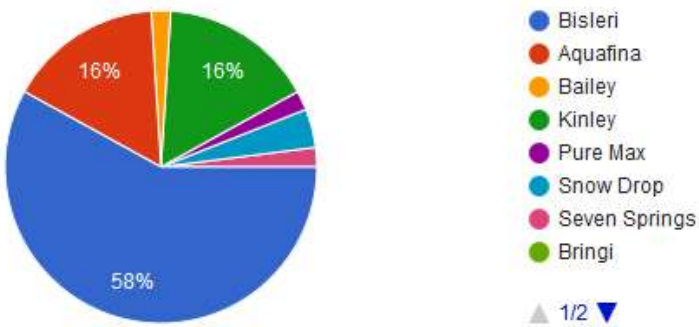

Fig 4: Maximum market share

S.NO	Elements	Frequency (fx)
1.	Bisleri	29
2.	Aquafina	8
3.	Kinley	8
4.	Bailey	1
5.	Pure max	1
6.	Snow drop	2

7.	Seven springs	1
8.	Bringi	0
9.	Zaffron	0
10.	Aquafly	0

Table 2: Maximum Market Share

3. **Mass consumption by the consumers yet to be in place:** it was found that mainly the consumers consume the bottled water once in a month and are not frequent users the consumption on the monthly basis is below 20 litre.

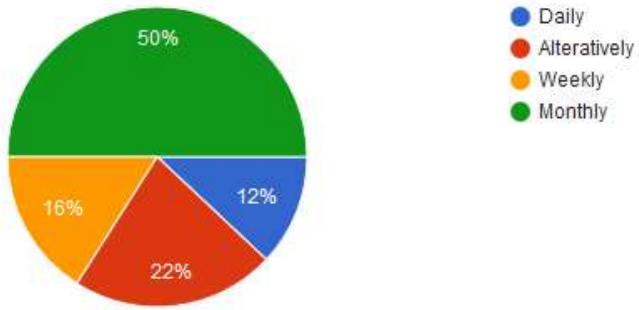

Fig 5: Frequency of consumption of Bottled water

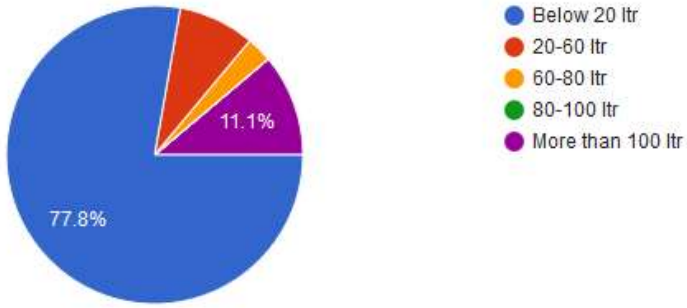

Fig 6: Amount Consumed

S.NO	Elements	Frequency (fx)
1.	Daily	6
2.	Alternatively	11
3.	Weekly	8
4.	Monthly	25
5.	Below 20 ltr	28
6.	20-60 ltr	3
7.	60-80ltr	1
8.	More than 100 ltr	4

Table 3: Monthly consumption of masses

4. **Good quality is the prime parameter for selection:** The most important finding was that people chose quality over price as the prime parameter for the selection of their brand for consumption.

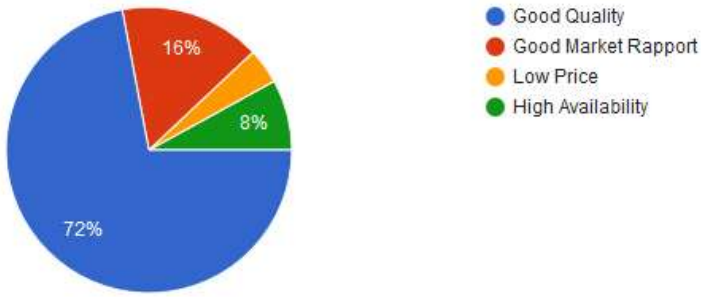

Fig 7: Parameters for brand selection

S.NO	Elements	Frequency (fx)
1.	Good quality	36
2.	Good market rapport	8
3.	Low price	2
4.	High availability	4

Table 8: Parameters for brand selection

5. **Basic sensory attributes must for consumer acceptability.** It was revealed that basic attributes like taste and odour along with visually clear water was mostly acceptable to consumers. The basic method of quality determination by the consumers is sensory evaluation.

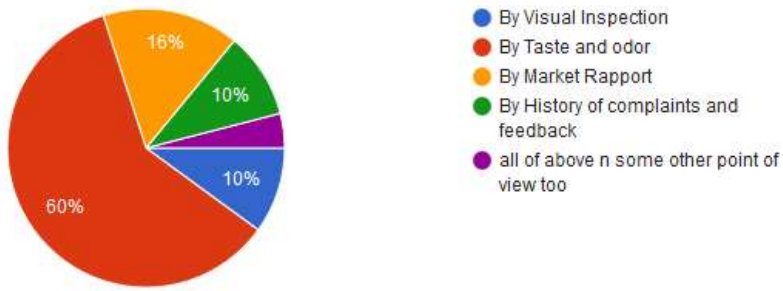

Fig 9: Quality inspection by consumers

S.NO	Elements	Frequency (fx)
1.	By visual inspection	5
2.	By taste and odour	30
3.	By history of complaints	5
4.	By market rapport	8
5.	Others	2

Table 5: Consumer quality evaluation

6. **Packaging and bottle designing that are easy to carry are preferred the most by the consumers:** Those bottling designs that are easy to carry and convenient to use are mainly preferred by the consumers, where 1 litre is the most preferred convenient pack size.

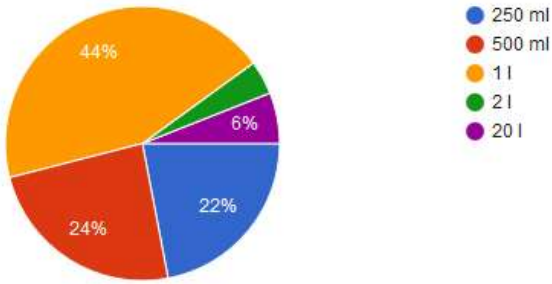

Fig 10: Convenient pack size preferred

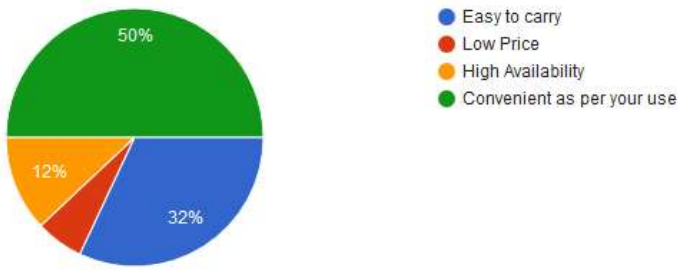

Fig 11: Reasons for choice of convenient pack

S.NO	Elements	Frequency (fx)
1.	20 litre	3
2.	2 litre	2
3.	1 litre	22
4.	250 ml	11
5.	500 ml	12
6.	Easy to carry	16
7.	Low price	3
8.	High availability	6
9.	Convenient as per use	25

Table 6: Convenient pack size preferred

7. **The volume must be enough as per utility:** The main reason for the consumer's choice of a particular pack size is the enough volume availability as per need. The need to use the bottled water arises because of no availability in areas of work and education of clean drinking water.

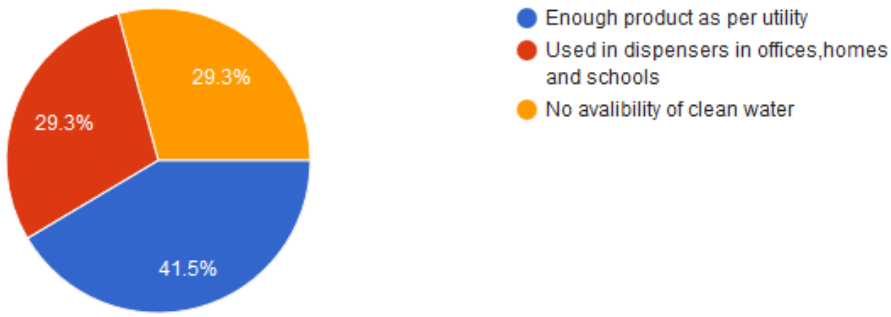

Fig 12: Reasons for choice of pack size.

S.NO	Elements	Frequency (fx)
1.	Enough water as per utility	17
2.	Used in offices and homes	12
3.	No availability of clean water	12

Table 7: Choice of pack size

8. **Brand Loyalty Not too Common:** It was found in the analysis that people don't stick to one brand for the consumption unless forced buying due to monopoly is found. They prefer good market rapport brand on the general basis.

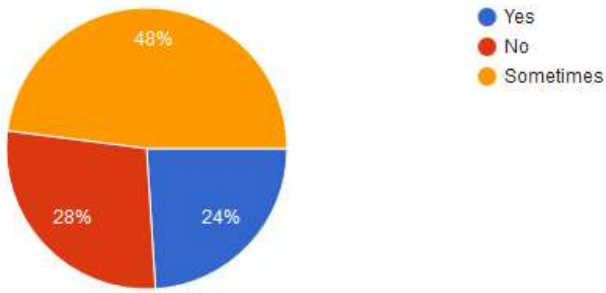

Fig 13: No brand loyalty observed

S.NO	Elements	Frequency (fx)
1.	Yes	12
2.	No	14
3.	Sometimes	24

Table 8: Brand loyalty is not too common.

9. **No consumer feedback is generally provided**: It was observed that people usually avoided reporting the feedback to the companies regarding the complaints in the product. This led to the silent loss in the consumer base of the companies without their knowledge.

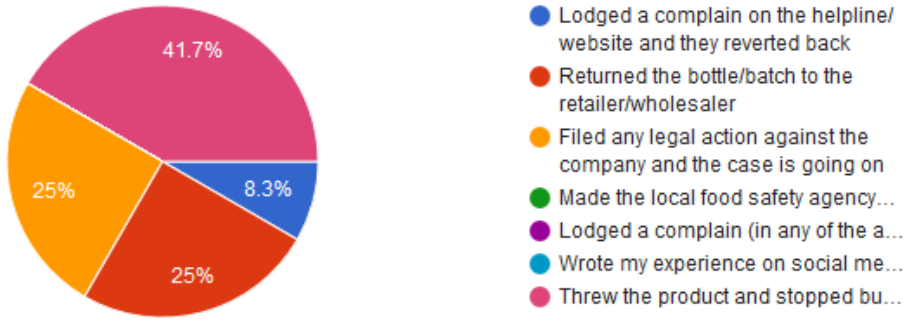

Fig 14: Feedback not reported

S.NO	Elements	Frequency (fx)
1.	Lodged a legal complain	3
2.	Returned the bottle to the seller	3
3.	Lodged a complaint on the website	1
4.	Made the local FSO aware	0
5.	Lodged a complaint in any of the following ways but never got any response	0
6.	Wrote my experience on social media	0
7.	Threw the product and stopped buying it	5

Table 9: Way consumer handles the complaints

10. **Overall satisfaction is above satisfactory:** It was found that the overall satisfaction from the bottled water industry is above satisfactory and mainly the consumer have no complaints for the manufactures.

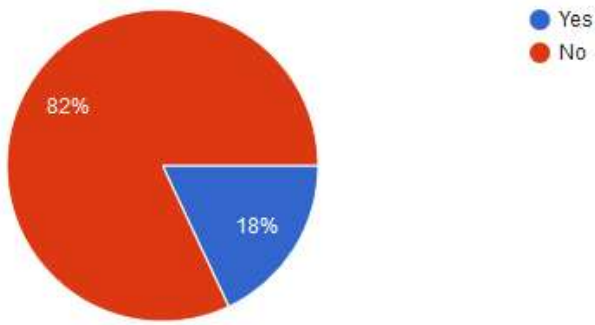

Fig 15: Level of consumer dissatisfaction from the product

S.NO	Elements	Frequency (fx)
1.	Yes	9
2.	No	41

Table 10: Consumer dissatisfactionc

Conclusion: After the detailed analysis, following points are recommended

1. **Focusing on product quality rather than price slashes or reductions**: By frequency evaluation it was found that companies must focus more on quality attributes of the product rather that wooing consumers by the price reduction strategies because it was found that consumers prefer good quality water over low price bottled water.

2. **Focusing on better bottle designing which is easy to carry:** The consumer awareness survey revealed that bottles designs that are easy to carry (1ltr, 500ml, 250ml) are more preferred by the consumers. Since they are easy to carry. Cumbersome bottle designs like 2 ltr and 20 ltr are little less preferred. Therefore bottle designing as per consumer acceptability must be done and modifications in the same are required.

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