Research Article

# Statistical Analysis based on Behavior towards Cold Drinks Products in North Indian Market 

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#### Abstract

The main goal of this work is to study and analysis the behavior towards cold drink products in Indian market. The study area of our survey is Rohtak, Chandigarh, Ambala and Nabipur region. As presented by the research methodology, the use of a questionnaire means selecting a target population, a sampling frame and sampling procedure, to finally determine whether the sample should be a probability sample or non probability sample. All elements come together to determine the sample sized needed and will determine how the data will be used and analyzed. In this survey, it prepares 25 questionnaires and get response from 310 respondents. In this survey 185 male and 125 female respondents are participated and also all age group respondents are involved in this survey. After analyzing the data by location, the Chandigarh location provides maximum response in terms of soft drink contains caffeine reviews and by the age, less than 30 year persons like soft drinks more as compared to other persons and results are shown analytically by SPSS tool.


Index Terms-Consumer Behavior, Soft Drinks, Coca-cola Products, Data Analysis, North India etc.

## 1. Introduction

Purchaser conduct is the demonstration of people in getting and utilizing products and enterprises that is displayed through their choice procedure. Customer buys are probably going to be affected by physiological and sociological variables. Customer conduct inquire about is a viable instrument in promoting for a wide range of association. Increasing an intensive, top to bottom customer understanding assists with guaranteeing that the correct items are showcased to the correct purchasers in the correct manner. The better the advertisers know and get purchasers, the more beneficial it would demonstrate in achieving their hierarchical targets. Advertisers need to comprehend what shoppers think, what customer need, how they work, how they purchase the items and what are the procedure engaged with purchasing. Buyers for the most part follow the normal purchasing process that comprises of an arrangement of occasions.
Advertisers need to create items and administrations to assist buyers with tackling issues as opposed to the idea of data search that customers embrace in a specific objective market. Furthermore, advertisers can likewise comprehend various sorts of assessment rules utilized by the shoppers, for example, different measurements on items, its highlights, attributes, and
advantages to tackle a particular issue. Thus, advertisers need to go past the blend of effects on purchasers and build up a comprehension of how shoppers really settle on their purchasing choices. Buyer fulfilment is a definitive point of any business. Both endurance and development of the business rely upon its consumer loyalty. The primary target of the business is to fulfill the customer needs and needs fulfillment is an individual's inclination of joy.
Purchaser is the essential issue on whom all the promoting exercises spin around. Producer creates what the customer needs as the purchaser's conduct contrasts from individual to individual. Associations that accomplish significant level of consumer loyalty additionally accomplish more noteworthy degree of benefit.
In any case, with the drenching of business segments in the urban part, various associations concentrated towards the rapidly creating commonplace division. What's more, the provincial markets in India are as yet advancing, and the part represents an assortment of difficulties. The utilization examples, tastes, and needs of the country customers are completely not quite the same as that of urban shoppers. While it is clear that urban Indian has adjusted a lot quicker than the rustic shopper because of higher presentation of media and changing way of life, the country buyers are not a long ways behind. Thus, the purchasing conduct of country customers has become a hotly debated issue for conversation on the grounds that rustic India, as of late, is energetically devouring everything in chilly beverages and this "provincial preference" is being considered as one of the critical subjects of market examination [2].

## Rural Market in India

The provincial division, which incorporates around 70 percent of the complete populace, has a significant task to carry out in the general advancement of the nation. Country India is currently experiencing an ocean change coming about because of the multi-pronged exercises attempted for by and large improvement of towns. There means that expanding success in rustic India. Thriving in the provincial regions has opened up new chances. It prompts certain positive increment in the interest for tough and non-sturdy products.
Furthermore, critical changes have been seen in the purchasing and utilization example of the rustic buyers, assimilating new thoughts, demeanour, and lifestyle. In light of the "green upheaval," there is a financial transformation occurring in Indian towns since the most recent three decades. Growing data on manures, water resources, pesticides, better quality seeds, present day farm equipment, and methods for developing have made the towns far predominant. The extending provincial market is critical to the development of the monetary improvement of India. With the adjustment in situation, the three promoting center is additionally changing towards towns: go provincial is the trademark of advertising masters. Thriving in provincial zones is a lot of reflected in the purchasing and utilization propensities for country people. Their tendency to spend on the cutting edge devices has expanded because of increment in buying power. This requires an evaluation of the rustic promoting condition that is an outgrowth of different financial and social powers. For developing a fitting promoting technique, understanding the country condition is very basic. As of late endeavours were made to characterize the particular contrasts between the urban and provincial markets dependent on the different financial elements.

## Rural Consumers in India

Country buyers by and large feel repressed and sick prepared to purchase unhesitatingly, since they have just lesser presentation to the item quality, administration backing and friends accreditations. Rustic buyers are unskilled according to the evaluation definition, however he is unintelligent. The brand mindfulness, inclination, and steadfastness among the country
customers are relatively not exactly their urban partners. The level of brand devotion changes among the rustic buyer as indicated by the idea of items. In the event that the rustic purchasers are faithful to one brand, it is extremely hard to change. Measurements 2001 reveals that 74 crores people that was around 70 percent of India's finished masses live in towns.
It tends to be said that country purchasers typically esteem cash more since they don't have a customary progression of money salary. They give due thought to usefulness as a rule, especially if there should arise an occurrence of durables. The middle people would prefer not to manage unpredictable and costly items in provincial regions as a result of post-deals administration entanglements. The maker advertiser attitude additionally attempts to promote costly items in urban focus.
The customary jobs are evolving. The old legends of expansion labourers, instructors, town heads being supposition pioneers need confirmation among the provincial masses. In numerous regions more youthful, progressively taught and forceful people from prevailing ranks have become good examples and conclusion pioneers; resigned people from the military and Government administrations have played these jobs somewhere else. Graciousness Self-Help Groups and relocation of physically fit guys, ladies have played the predominant dynamic job in numerous more unfortunate families.
Ironically advertisers when all is said in done, target country showcases as the last need and continue to arrange them as slow pokes, conventional, hazard loath, impervious to change, etc. The experience of Green upheaval, current dairy rehearses, acknowledgment of advancements show that provincial purchasers look for esteem (generally utilitarian) yet embrace new practices warily in light of the fact that for a large number of them the change could bring about long lasting servitude, starvation or even passing.

## How do consumers make choice?

Shoppers are mentally and psychologically unmistakable from one another; in this way, they settle on various abstract choices. In any case, they normally attempt to be objective and wary by making what they accept to be the best decision so as to decrease chances and amplify their advantages. Prior to settling on decisions, buyers generally accumulate however much inside and outer data as could be expected from different sources. They depend more on the inner data (direct understanding), yet in addition contrast it and outside data got from companions, family and different references. At the point when inward data is constrained, they trust more the individuals who have a nearby close to home relationship with them, contrasted with media and promotions, and other comparative data sources and channels.
Value will in general be a key factor impacting purchasers' dynamic. As a rule, the more costly the great, the better execution as well as quality purchasers anticipate. Consequently, buyers regularly settle on more mindful decisions on tough products than non-solid ones, as they are progressively costly and require a more elevated level of responsibility. In this manner, purchaser inclusion assumes a significant job in customer dynamic [2].
The survey done by various authors introduced the detect ability framework could bolster the food organizations to move in the intricate system of the gracefully chain and, at the same time, to reply to the new shopper and market needs. In this work a hypothetical methodology dependent on business process demonstrating was proposed and tried in a genuine contextual analysis. This paper proposes a hypothetical methodology for recognizability in food industry. The methodology was broadly useful and was conceivably ready to help the organization in discernibility framework foundation, in all period of flexibly chain and for all sort of food item. These information could be deliberately whenever explained and transmitted to various partner of the gracefully chain.

## 2. Factors Affecting Consumer Purchasing Behavior

This segment examines the experimental discoveries corresponding to bundling, shading, value, size, shape, rack space, shopper's information and printed data as an impact in the utilization of malt soda drinks.

## A. Packaging

Packaging can moreover insinuate a mix of different properties. Customers subconsciously allocate their supported concealing, shape and basic material(s) used in the holders. recognized concealing, establishment, picture, packaging materials, content measurement, plan of wrapper, printed information and headway as attributes customers join to packaging.


## Fig 1: Influence of Consumer Purchasing Process

These are verbal and visual packaging characteristics. Verbal packaging trademark involves thing information, creator, country of-beginning stage, and brand. Visual packaging characteristics have reasonable, concealing, size, structure and material as attributes. In a major circumstance, the activity of packaging has changed due to growing self-organization and changing consumers" lifestyle. Firms" excitement for pack as a device of arrangements headway is growing dynamically. Pack transforms into an outrageous selling proposal vitalizing rash buying conduct, growing bit of the general business and reducing restricted time costs. Pack pulls in consumers" thought with respect to a particular brand, improves its image, and effects consumers" acknowledgment's about thing. Moreover, pack awards novel motivation to things as an instrument for partition for instance it urges customers to pick the thing from wide extent of relative things and fortifies consumers" buying conduct. Consequently, packaging expect a huge activity in promoting exchanges and could be treated as one of the most critical parts influencing consumers" purchase decision. The influence of consumer purchasing process is shown in Fig 1. There are various social \& market influences that affect on this process at very sharp rate.

## B. Color

In case it is a buyer thing, it should stand separated on the rack. If the whole of the contenders are dull blue, your imprint should be red and white. It is hard to flip off severely with light and

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unbelievable. Concealing is a major bit of stamping and working up the brand explanation. Concealing decisions need to consider the shades used by contenders and whether the fact is to fit in or stick out. It is likewise recommend the possibility that shade of the drink predicts flavor power is normal among customers. This is presumably due to socio authentic elements. For example, in Germany organizations like Miller and Anheuser-Busch started to, and still do, rule the fermenting market with German-style ales with low liquor, low harshness and light hues.

## C. Price

As per the examination discoveries cost had no impact on the choice to purchase eco-marked refreshment items in the store. The finding were astonishing as a large portion of other research discoveries had demonstrated the contrary outcomes, in these investigations cost impacts the customers while picking between eco-marked items and traditional items. The significance of cost was for instance, $35 \%$ while picking eco-marked items contrasted with different factors, for example, bundling, reseal capacity and brand impact. In another examination, the factor cost was referenced before as one of the buyer's concern or impediment with regards to the acquisition of malt sodas. It was likewise discovered that the buyer would prefer not to forfeit item work and that the expense of the item frequently matters for them. The effect of cost on the shoppers buying process was referenced as an impacting factor .

## D. Size

The proportion of usage can from time to time be extended through packaging or thing plan. Greater group sizes have been seemed to extend the proportion of thing that customers use on the double. The usage of "drive" use things, for instance, soft drinks and nibbles increases when the thing is made progressively open. Now and again, the thing may be seen as significant just in explicit spots and at explicit events, especially if it has strong brand relationship to explicit use conditions or customer types. Size sticks out. While picking among fighting things, purchasers will when all is said in done buy things in packs that appear, apparently, to be taller than others; even the extent of the parts of rectangular things or groups can subtly impact client tendencies. Moreover, customers see that packs in eye getting shapes contain to a more noteworthy degree a thing.

## 3. Research Strategy

A Research strategy is a step-by-step plan of action that give us direction to do a systematically research and on schedule to produce quality results and detailed reporting. The research based on assessing consumer behavior on soft drinks practices of selected soft drinks firms in the Rohtak, Ambala, Chandigarh and Nabipur Region. Research strategy adopted by these firms is Quantitative analysis so that they can use research strategy to achieve the research aim of investigating into consumer behavior on soft drinks. It can be done in following ways:

1. With meeting people and implementing their feedback to improve the product
2. We must have a plan to do online survey or by poll.
3. By human psychology towards beverages.
4. By understanding the local culture of Rohtak, Chandigarh and Ambala.
5. By studying the notion of the people towards soft drinks and converging this notion to the fact towards the soft drinks.
We have to prepare questionnaire about the consumer behavior on soft drinks which we can help us to analysis and get some results. Here is what each of these strategies entails:

- Case Study: This focuses on an in-depth investigation of a single case (e.g., one organisation) or a small number of cases. In case study research generally, information is sought from different sources and through the use of different types of data such as observations, survey, interviews and analysis of documents. Data can be qualitative, quantitative or a mix of both. Case study research allows a composite and multifaceted investigation of the issue or problem.
- Qualitative interviews: There are different types of qualitative interviews (e.g., structured, semi-structured, unstructured) and this is the most widely used method for gathering data. Interviews allow access to rich information. They require extensive planning concerning the development of the structure, decisions about who to interview and how, whether to conduct individual or group interviews, and how to record and analyse them. Interviewees need a wide range of skills, including good social skills, listening skills and communication skills. Interviews are also time-consuming to conduct and they are prone to problems and biases that need to be minimised during the design stage.
- Quantitative survey: This is a widely used method in business research and allows access to significantly high numbers of participants. The availability of online sites enables the wide and cheap distribution of surveys and the organisation of the responses. Although the development of questions may appear easy, to develop a meaningful questionnaire that allows the answering of research questions is difficult. Questionnaires need to appeal to respondents, cannot be too long, too intrusive or too difficult to understand. They also need to measure accurately the issue under investigation.


## A. Sources of Data

The researcher used both primary and secondary sources of data for the study for consumer behavior on soft drinks to analyze the research in a systematic way and produce some good results. The researcher must keep in mind the data they are getting is coming from most genuine and reliable sources. The researcher needs to maintain a balance between time and the output of the data so that they can provide the optimize results and serves consumer in better and faster way. The researcher makes sure that the data which are being collected is including all the classes from lower, middle, upper middle to elite. The data must be collected from an individual, group behavior study of masses and already from the proven scientific facts. The researcher gets the primary data in raw form and then the researcher moulds it in a different form of secondary data as per their requirement. Primary data collection takes a lot of time because the researcher directly involves in them and responsible for reliable data collection. In this survey which researcher did for consumer behavior on soft drinks they prepare 25 questionnaires and 310 respondents were given the response to this survey. So, the data which we collected that data is in raw form so we can call them primary data. By this primary data, we can prepare different types of charts, tables, and graphs as per the researcher's requirement.

## B. Research Gap

A research gap is the gap by which researcher cannot reach to their conclusion due to insufficient or missing information. A researcher defined research gap so that they limit the ability of decision making. In this research, researcher must have found some research gap so that they can improve those points which are not included in previous thesis. In this work, for consumer behavior on soft drinks research methodology the researcher classified research gap in following 6 types - Population gap, methodology gap, Evidence gap, Knowledge gap, practical knowledge gap and theatrical gap. The main work is to analyze the study on consumer

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behavior on soft drinks in north India. The population gap is basically due to undefined population for this consumer behavior. The evidence gap is mainly due to requirement of evidence document for consumer behavior or trend towards soft drinks. The methodology gap is due to undefined method to generate analysis towards this study. All these gaps will be closely taken and necessary actions are taken against these. It may create because this concept and idea has not been studied or existing research is out dated and need to updated as per current demand.

## 4. Data Analysis

In this survey, it prepares 25 questionnaires and get response from 310 respondents. In this survey 185 male and 125 female respondents are participated and also all age group respondents are involved in this survey. Table 1 to 4 shows the analysis of data using age and location with the help of SPSS tool.

- The study was held in the 4 region of India which are Chandigarh, Ambala, Rohtak and Nabipur.
- Out of 310 respondents $59.67 \%$ respondents are male and $40.32 \%$ are female respondents
- The maximum 183 number of respondents from the age group of below 30 and minimum number of respondents from the age group of 31-40 years.
- The maximum percentage $43.87 \%$ respondent's qualification is PG/M.Tech/Other Professional Courses and minimum $5.16 \%$ respondent's qualification is SSC/ITI. Out of 310 respondents 129 are married and 181 are unmarried.


## A. Analysis Using Age Factor

Table 1: Analysis using Age Factor by SPSS Tool

| Group Statistics |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Age factor | $\mathbf{N}$ | Mean | Std. <br> Deviation | Std. Error <br> Mean |
| How Much you like soft drinks? | Above 30 <br> year | 44 | 3.82 | 1.352 | .204 |
|  | Below 30 <br> years | 183 | 4.07 | 1.082 | .080 |
| Frequency of consumption of soft |  |  |  |  |  |
| drink in a week? | Above 30 <br> year | 44 | 3.23 | 1.159 | .175 |
|  | Below 30 <br> years | 183 | 4.23 | 1.126 | .083 |
| How much advertisements affect <br> your purchases? | Above 30 <br> year | 44 | 2.64 | 1.102 | .166 |
|  | Below 30 <br> years | 183 | 1.99 | 1.195 | .088 |
| How do you rate canned juices as <br> compare to fresh juices? | Above 30 <br> year | 44 | 2.57 | 1.169 | .176 |
|  | Below 30 <br> years | 183 | 1.98 | 1.148 | .085 |
| Do you think taking too much soft <br> drink would cause health problems? | Above 30 <br> year | 44 | 3.52 | 1.486 | .224 |


|  | Below 30 years | 183 | 3.78 | 1.069 | . 079 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Are you aware that you are being priced more than 10 times than that of real price of the drink? | Above 30 year | 44 | 1.43 | . 501 | . 076 |
|  | Below 30 years | 183 | 1.23 | . 422 | . 031 |
| Do you think the superstars should stop promoting unhealthy soft drinks? | Above 30 year | 44 | 3.57 | 1.516 | . 229 |
|  | $\begin{gathered} \hline \text { Below 30 } \\ \text { years } \\ \hline \end{gathered}$ | 183 | 3.77 | 1.076 | . 080 |
| Soft drinks such as Coca-Cola contain significant quantities of Caffeine, Nicotine? | Above 30 year | 44 | 3.89 | 1.368 | . 206 |
|  | Below 30 years | 183 | 4.07 | 1.025 | . 076 |
| Do you prefer the after usage of plastic bottles of soft drinks? | Above 30 year | 44 | 3.14 | 1.622 | . 245 |
|  | $\begin{gathered} \text { Below } 30 \\ \text { years } \\ \hline \end{gathered}$ | 183 | 3.29 | 1.511 | . 112 |
| What time do you normally purchase soft drinks? | Above 30 year | 44 | 3.50 | 1.861 | . 281 |
|  | Below 30 years | 183 | 2.57 | 1.408 | . 104 |
| What is your view on the mass media advertisement of coca cola? | Above 30 year | 44 | 3.36 | 1.432 | . 216 |
|  | Below 30 years | 183 | 3.64 | 1.262 | . 093 |
| Are you concerned by the levels of sugar in soft drinks? | Above 30 year | 44 | 1.57 | . 501 | . 076 |
|  | Below 30 years | 183 | 1.77 | . 422 | . 031 |

Table 2: Analysis using Age Factor using Independent Samples Test by SPSS Tool

| Independent Samples Test |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Levine's <br> Test for <br> Equality of <br> Variances |  | T-Test for Equality of Means |  |  |  |  |  |  |
|  | F | $\begin{aligned} & \mathrm{Si} \\ & \mathrm{~g} . \end{aligned}$ | t | df | Sig. (2taile d) | $\begin{gathered} \hline \text { Mea } \\ \text { n } \\ \text { Diff } \\ \text { eren } \\ \text { ce } \end{gathered}$ | $\begin{gathered} \hline \text { Std } \\ \text { Err } \\ \text { or } \\ \text { Dif } \\ \text { fer } \\ \text { enc } \\ \text { e } \\ \hline \end{gathered}$ | 95\% <br> Confidence Interval of the Difference |  |
|  |  |  |  |  |  |  |  | Low er | $\begin{gathered} \text { Upp } \\ \text { er } \end{gathered}$ |

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| How Much you like soft drinks? | Equal variances assumed | $\begin{array}{r} 3.14 \\ 4 \end{array}$ | $\begin{array}{r} .0 \\ 78 \end{array}$ | $1.29$ | 225 | . 197 | $.247$ | $\begin{array}{r} \hline .19 \\ 1 \end{array}$ | . 624 | . 129 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Equal variances not assumed |  |  | $\begin{array}{r} - \\ 1.13 \\ 0 \end{array}$ | $\begin{array}{r} 56.9 \\ 64 \end{array}$ | . 263 |  | $\begin{array}{r} .21 \\ 9 \end{array}$ | . 686 | . 191 |
| Frequency of consumption of soft drink in a week? | Equal variances assumed | . 213 | $\begin{array}{r} .6 \\ 45 \end{array}$ | $\begin{array}{r} - \\ 5.29 \\ 9 \end{array}$ | 225 | . 000 | $\begin{array}{r} 1.00 \\ 8 \\ \hline \end{array}$ | $\begin{array}{r} .19 \\ 0 \end{array}$ | $\begin{array}{r} 1.38 \\ 2 \\ \hline \end{array}$ | . 633 |
|  | Equal variances not assumed |  |  | $\begin{array}{r} 5.20 \\ 8 \end{array}$ | $\begin{array}{r} 63.9 \\ 80 \end{array}$ | . 000 | $\begin{array}{r} 1.00 \\ 8 \\ \hline \end{array}$ | .19 4 | $\begin{array}{r} 1.39 \\ 4 \end{array}$ | . 621 |
| How much advertisemen ts affect your purchases? | Equal variances assumed | $\begin{array}{r} 3.57 \\ 4 \end{array}$ | $\begin{array}{r} .0 \\ 60 \end{array}$ | $\begin{array}{r} 3.27 \\ 3 \end{array}$ | 225 | . 001 | . 647 | $\begin{array}{r} .19 \\ 8 \end{array}$ | . 258 | $\begin{array}{r} 1.03 \\ 7 \end{array}$ |
|  | Equal variances not assumed |  |  | $\begin{array}{r} 3.44 \\ 1 \end{array}$ | $\begin{array}{r} 69.4 \\ 69 \end{array}$ | . 001 | . 647 | $\begin{array}{r} .18 \\ 8 \end{array}$ | . 272 | $\begin{array}{r} 1.02 \\ 3 \end{array}$ |
| How do you rate canned juices as compare to fresh juices? | Equal variances assumed | . 007 | $\begin{array}{r} .9 \\ 33 \end{array}$ | $\begin{array}{r} 3.05 \\ 0 \end{array}$ | 225 | . 003 | . 590 | $\begin{array}{r} .19 \\ 3 \end{array}$ | . 209 | . 971 |
|  | Equal variances not assumed |  |  | $\begin{array}{r} 3.01 \\ 6 \end{array}$ | $\begin{array}{r} 64.4 \\ 27 \end{array}$ | . 004 | . 590 | $\begin{array}{r} .19 \\ 6 \end{array}$ | . 199 | . 981 |
| Do you think taking too much soft drink would cause health problems? | Equal variances assumed | $\begin{array}{r} 9.92 \\ 1 \end{array}$ | $\begin{array}{r} \hline .0 \\ 02 \end{array}$ | $\begin{array}{r} 1.30 \\ 0 \end{array}$ | 225 | . 195 |  | $\begin{array}{r} .19 \\ 5 \end{array}$ | . 637 | . 131 |
|  | Equal variances not assumed |  |  | $\begin{array}{r} \hline- \\ 1.06 \\ 6 \end{array}$ | $\begin{array}{r} \hline 54.1 \\ 56 \end{array}$ | . 291 | . 253 | $\begin{array}{r} \hline .23 \\ 8 \end{array}$ | . 729 | . 223 |
| Are you aware that you are being priced more than 10 times than that of real price of the drink? | Equal variances assumed | $\begin{array}{r} 15.4 \\ 96 \end{array}$ | $\begin{array}{r} .0 \\ 00 \end{array}$ | $\begin{array}{r} 2.75 \\ 1 \end{array}$ | 225 | . 006 | . 202 | $\begin{array}{r} .07 \\ 4 \end{array}$ | . 057 | . 347 |
|  | Equal variances not assumed |  |  | $\begin{array}{r} 2.47 \\ 6 \end{array}$ | $\begin{array}{r} 58.4 \\ 91 \end{array}$ | . 016 | . 202 | $\begin{array}{r} .08 \\ 2 \end{array}$ | . 039 | . 366 |
| Do you think the superstars should stop promoting unhealthy soft drinks? | Equal variances assumed | $\begin{array}{r} 17.2 \\ 57 \end{array}$ | $\begin{array}{r} .0 \\ 00 \end{array}$ | . 999 | 225 | . 319 |  | $\begin{array}{r} .19 \\ 7 \end{array}$ | . 585 | . 191 |
|  | Equal variances not assumed |  |  | . 814 | $\begin{array}{r} 53.8 \\ 74 \end{array}$ | . 420 |  | $\begin{array}{r} .24 \\ 2 \end{array}$ | . 682 | . 288 |
| Soft drinks such as Coca-Cola | Equal variances assumed | $\begin{array}{r} 11.0 \\ 26 \end{array}$ | $\begin{array}{r} .0 \\ 01 \end{array}$ | $.971$ | 225 | . 332 | $.179$ | $\begin{array}{r} .18 \\ 4 \end{array}$ | . 543 | . 184 |


| contain significant quantities of Caffeine, Nicotine? | Equal variances not assumed |  |  | . 816 | $\begin{array}{r} 55.1 \\ 61 \end{array}$ | . 418 |  | .22 0 |  | . 261 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Do you prefer the after usage of plastic bottles of soft drinks? | Equal variances assumed | . 905 | $\begin{array}{r} .3 \\ 42 \end{array}$ | . 595 | 225 | . 552 | $.153$ | $\begin{array}{r} .25 \\ 7 \end{array}$ | . 661 | . 354 |
|  | Equal variances not assumed |  |  | $.570$ | $\begin{array}{r} 62.1 \\ 73 \end{array}$ | . 571 |  | $\begin{array}{r} .26 \\ 9 \end{array}$ | . 691 | . 384 |
| What time do you normally purchase soft drinks? | Equal variances assumed | $\begin{array}{r} 10.8 \\ 51 \end{array}$ | $\begin{gathered} \hline .0 \\ 01 \end{gathered}$ | $\begin{array}{r} 3.68 \\ 6 \end{array}$ | 225 | . 000 | . 932 | $\begin{array}{r} .25 \\ 3 \end{array}$ | . 434 | $\begin{array}{r} 1.43 \\ 0 \end{array}$ |
|  | Equal variances not assumed |  |  | $\begin{array}{r} 3.11 \\ 3 \end{array}$ | $\begin{array}{r} 55.3 \\ 99 \end{array}$ | . 003 | . 932 | $\begin{array}{r} .29 \\ 9 \end{array}$ | . 332 | 1.53 1 |
| What is your view on the mass media advertisemen t of coca cola? | Equal variances assumed | $\begin{array}{r} 3.08 \\ 1 \end{array}$ | $\begin{array}{r} .0 \\ 81 \end{array}$ | $\begin{array}{r} - \\ 1.29 \\ 2 \end{array}$ | 225 | . 198 | $281 .$ | $\begin{array}{r} .21 \\ 8 \end{array}$ | . 710 | . 148 |
|  | Equal variances not assumed |  |  | $\begin{array}{r} 1.19 \\ 6 \\ \hline \end{array}$ | $\begin{array}{r} \hline 60.0 \\ 66 \end{array}$ | . 237 |  | .23 5 | . 752 | . 189 |
| Are you concerned by the levels of sugar in soft drinks? | Equal variances assumed | $\begin{array}{r} 15.4 \\ 96 \end{array}$ | $\begin{array}{r} \hline .0 \\ 00 \end{array}$ | $\begin{array}{r} - \\ 2.75 \\ 1 \end{array}$ | 225 | . 006 |  | $\begin{array}{r} .07 \\ 4 \end{array}$ | . 347 | . 057 |
|  | Equal variances not assumed |  |  | 1 2.4 6 | $\begin{array}{r} 58.4 \\ 91 \end{array}$ | . 016 | . 202 | .08 2 | . 366 | . $03{ }^{-}$ |

## B. Analysis Based on Location

Table 3: Analysis based on Location by SPSS Tool

| Group Statistics |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | Visit <br> Location | $\mathbf{N}$ | Mean | Std. <br> Deviation | Std. Error <br> Mean |
| How Much you like soft <br> drinks? | Ambala | 49 | 3.96 | 1.258 | .180 |
|  | Chandiga <br> rh | 64 | 4.05 | 1.161 | .145 |
| Frequency of consumption <br> of soft drink in a week? | Ambala | 49 | 3.45 | 1.174 | .168 |
|  | Chandiga <br> rh | 64 | 3.91 | 1.244 | .155 |
| How much advertisements <br> affect your purchases? | Ambala | 49 | 2.65 | 1.091 | .156 |
|  | Chandiga <br> rh | 64 | 2.39 | 1.305 | .163 |
| How do you rate canned <br> juices as compare to fresh <br> juices? | Ambala | 49 | 2.47 | 1.043 | .149 |
|  | Chandiga <br> rh | 64 | 2.16 | 1.224 | .153 |

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| Do you think taking too much soft drink would cause health problems? | Ambala | 49 | 3.57 | 1.429 | . 204 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Chandiga rh | 64 | 4.02 | 1.148 | . 143 |
| Are you aware that you are being priced more than 10 times than that of real price of the drink? | Ambala | 49 | 1.24 | . 434 | . 062 |
|  | Chandiga rh | 64 | 1.22 | . 417 | . 052 |
| Do you think the superstars should stop promoting unhealthy soft drinks? | Ambala | 49 | 3.45 | 1.324 | . 189 |
|  | Chandiga rh | 64 | 3.56 | 1.283 | . 160 |
| Soft drinks such as CocaCola contain significant quantities of Caffeine, Nicotine? | Ambala | 49 | 3.63 | 1.220 | . 174 |
|  | Chandiga rh | 64 | 4.11 | 1.010 | . 126 |
| Do you prefer the after usage of plastic bottles of soft drinks? | Ambala | 49 | 3.37 | 1.424 | . 203 |
|  | Chandiga rh | 64 | 3.23 | 1.611 | . 201 |
| What time do you normally purchase soft drinks? | Ambala | 49 | 2.92 | 1.484 | . 212 |
|  | Chandiga rh | 64 | 2.69 | 1.511 | . 189 |
| What is your view on the mass media advertisement of coca cola? | Ambala | 49 | 3.29 | 1.339 | . 191 |
|  | Chandiga rh | 64 | 3.63 | 1.442 | . 180 |
| Are you concerned by the levels of sugar in soft drinks? | Ambala | 49 | 1.67 | . 474 | . 068 |
|  | Chandiga rh | 64 | 1.78 | . 417 | . 052 |

Table 4: Analysis using Location using Independent Samples Test by SPSS Tool

| Independent Samples Test |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Levene's <br> Test for <br> Equality <br> of <br> Variance <br> S |  | T-test for Equality of Means |  |  |  |  |  |  |
|  |  | F | $\mathbf{S i g}$ | t | df | Sig. (2tail ed) | $\begin{gathered} \text { Mea } \\ \text { n } \\ \text { Diff } \\ \text { eren } \\ \text { ce } \end{gathered}$ | $\begin{gathered} \text { Std } \\ \text { Err } \\ \text { or } \\ \text { or } \\ \text { Diff } \\ \text { ere } \\ \text { nce } \end{gathered}$ | 95\% <br> Confidence Interval of the Difference |  |
|  |  | $\begin{gathered} \text { Low } \\ \text { er } \end{gathered}$ |  |  |  |  |  |  | Upp er |
| How | Equal |  | . 79 | . 37 | - | 111 | . 70 | - | . 22 | - | . 365 |
| Much you | variance | 2 | 5 | . 38 |  | 2 | . 088 | 8 | . 540 |  |
| like soft drinks? | S assumed |  |  | 4 |  |  |  |  |  |  |


|  | Equal variance s not assumed |  |  | $\begin{gathered} - \\ .38 \\ 0 \end{gathered}$ | $\begin{aligned} & 98 . \\ & 950 \end{aligned}$ | $\begin{gathered} .70 \\ 5 \end{gathered}$ | $088 .$ | $\begin{gathered} .23 \\ 1 \end{gathered}$ | $\text { . } 546 .$ | . 371 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequency of consumpti on of soft drink in a week? | Equal variance s assumed | $\begin{aligned} & 2.1 \\ & 80 \end{aligned}$ | $\begin{gathered} .14 \\ 3 \end{gathered}$ | $\begin{aligned} & 1.9 \\ & 84 \end{aligned}$ | 111 | $\begin{gathered} .05 \\ 0 \end{gathered}$ | $.457$ | $\begin{gathered} .23 \\ 0 \end{gathered}$ | $914$ | $.001$ |
|  | Equal variance s not assumed |  |  | $\begin{gathered} - \\ 2.0 \\ 00 \end{gathered}$ | $\begin{aligned} & 106 \\ & .20 \end{aligned}$ | $\begin{gathered} .04 \\ 8 \end{gathered}$ | $457 .$ | $\begin{gathered} .22 \\ 9 \end{gathered}$ | $.911$ | $.$ |
| How much advertisem ents affect your purchases? | Equal variance S assumed | $\begin{aligned} & 10 . \\ & 93 \end{aligned}$ | $\begin{gathered} .00 \\ 1 \end{gathered}$ | $\begin{aligned} & 1.1 \\ & 36 \end{aligned}$ | 111 | $\begin{gathered} .25 \\ 8 \end{gathered}$ | . 262 | $\begin{gathered} .23 \\ 1 \end{gathered}$ | $\stackrel{-}{.} 195$ | . 720 |
|  | Equal variance s not assumed |  |  | $\begin{aligned} & 1.1 \\ & 64 \end{aligned}$ | $\begin{aligned} & 110 \\ & .10 \end{aligned}$ | $\begin{gathered} \hline .24 \\ 7 \end{gathered}$ | . 262 | $\begin{gathered} .22 \\ 6 \end{gathered}$ | $\text { . } 185$ | . 709 |
| How do you rate canned juices as compare to fresh juices? | Equal variance s assumed | $\begin{gathered} 6.9 \\ 52 \end{gathered}$ | $\begin{gathered} .01 \\ 0 \end{gathered}$ | $\begin{aligned} & 1.4 \\ & 35 \end{aligned}$ | 111 | $\begin{gathered} .15 \\ 4 \end{gathered}$ | . 313 | $\begin{gathered} .21 \\ 8 \end{gathered}$ | $\text { } 119 .$ | . 745 |
|  | Equal variance s not assumed |  |  | $\begin{aligned} & 1.4 \\ & 66 \end{aligned}$ | $\begin{gathered} 109 \\ .69 \end{gathered}$ | $\begin{gathered} .14 \\ 5 \end{gathered}$ | . 313 | $\begin{gathered} .21 \\ 4 \end{gathered}$ | $.110$ | . 736 |
| Do you think taking too much soft drink would cause health problems? | Equal variance s assumed | $\begin{aligned} & 4.2 \\ & 78 \end{aligned}$ | $\begin{gathered} .04 \\ 1 \end{gathered}$ | $\begin{aligned} & 1.8 \\ & 33 \end{aligned}$ | 111 | $\begin{gathered} .07 \\ 0 \end{gathered}$ | $444 .$ | $\begin{gathered} .24 \\ 2 \end{gathered}$ | $925 .$ | . 036 |
|  | Equal variance s not assumed |  |  | $\begin{aligned} & 1.7 \\ & 80 \end{aligned}$ | $\begin{aligned} & 90 . \\ & 338 \end{aligned}$ | $\begin{gathered} .07 \\ 8 \end{gathered}$ | $444 .$ | $\begin{gathered} .24 \\ 9 \end{gathered}$ | $940 .$ | . 051 |
| Are you aware that you are being priced more than 10 times than that of real price of the drink? | Equal variance s assumed | $\begin{gathered} .41 \\ 6 \end{gathered}$ | $\begin{gathered} .52 \\ 0 \end{gathered}$ | $\begin{gathered} .32 \\ 5 \end{gathered}$ | 111 | $\begin{gathered} .74 \\ 6 \end{gathered}$ | . 026 | $.08$ | $\text { . } 134$ | . 186 |
|  | Equal variance s not assumed |  |  | $\begin{gathered} .32 \\ 3 \end{gathered}$ | $\begin{aligned} & \hline 101 \\ & .17 \end{aligned}$ | $\begin{gathered} \hline .74 \\ 8 \end{gathered}$ | . 026 | $\begin{gathered} .08 \\ 1 \end{gathered}$ | $\text { . } 135$ | . 187 |

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| Do you think the superstars should stop promoting unhealthy soft drinks? | Equal variance s assumed | $\begin{gathered} .15 \\ 8 \end{gathered}$ | $\begin{gathered} .69 \\ 2 \end{gathered}$ | $\begin{gathered} . \\ 0 \\ 0 \end{gathered}$ | 111 | $\begin{gathered} .64 \\ 7 \end{gathered}$ | $.114$ | $\begin{gathered} .24 \\ 7 \end{gathered}$ | $.603$ | . 376 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Equal variance s not assumed |  |  | $\begin{gathered} .45 \\ 8 \end{gathered}$ | $\begin{aligned} & 101 \\ & .77 \end{aligned}$ | $\begin{gathered} .64 \\ 8 \end{gathered}$ | $.114$ | $\begin{gathered} .24 \\ 8 \end{gathered}$ | $\text { . } 605$ | . 378 |
| Soft drinks such as Coca-Cola contain significant quantities of Caffeine, Nicotine? | Equal variance s assumed | $\begin{aligned} & 4.9 \\ & 34 \end{aligned}$ | $\begin{gathered} .02 \\ 8 \end{gathered}$ | $\begin{aligned} & 2.2 \\ & 72 \end{aligned}$ | 111 | $\begin{gathered} .02 \\ 5 \end{gathered}$ | $477 .$ | $\begin{gathered} .21 \\ 0 \end{gathered}$ | $893 .$ | $.061$ |
|  | Equal variance s not assumed |  |  | $\begin{gathered} 2.2 \\ 16 \end{gathered}$ | $\begin{aligned} & \hline 92 . \\ & 24 \end{aligned}$ | $\begin{gathered} .02 \\ 9 \end{gathered}$ | $477 .$ | $\begin{gathered} .21 \\ 5 \end{gathered}$ | $904$ | $.049$ |
| Do you prefer the after usage of plastic bottles of soft drinks? | Equal variance s assumed | $\begin{gathered} 3.6 \\ 15 \end{gathered}$ | $\begin{gathered} .06 \\ 0 \end{gathered}$ | $\begin{gathered} .45 \\ 7 \end{gathered}$ | 111 | $\begin{gathered} .64 \\ 9 \end{gathered}$ | . 133 | $\begin{gathered} .29 \\ 1 \end{gathered}$ | $444 .$ | . 710 |
|  | Equal variance s not assumed |  |  | $\begin{gathered} .46 \\ 4 \end{gathered}$ | $\begin{gathered} 108 \\ \hline .65 \end{gathered}$ | $\begin{gathered} \hline .64 \\ 3 \end{gathered}$ | . 133 | $\begin{gathered} \hline .28 \\ 6 \end{gathered}$ | $.434$ | . 700 |
| What time do you normally purchase soft drinks? | Equal variance s assumed | $\begin{gathered} .16 \\ 5 \end{gathered}$ | $\begin{gathered} .68 \\ 6 \end{gathered}$ | $\begin{gathered} .81 \\ 1 \end{gathered}$ | 111 | $\begin{gathered} .41 \\ 9 \end{gathered}$ | . 231 | $\begin{gathered} .28 \\ 5 \end{gathered}$ | $.333$ | . 795 |
|  | Equal variance s not assumed |  |  | $\begin{gathered} .81 \\ 3 \end{gathered}$ | $\begin{aligned} & 104 \\ & .34 \end{aligned}$ | $\begin{gathered} .41 \\ 8 \end{gathered}$ | . 231 | $\begin{gathered} .28 \\ 4 \end{gathered}$ | $.332$ | . 794 |
| What is your view on the mass media advertisem ent of coca cola? | Equal variance s assumed | $.60$ | $\begin{gathered} .43 \\ 9 \end{gathered}$ | $\begin{aligned} & 1.2 \\ & 78 \end{aligned}$ | 111 | $\begin{gathered} .20 \\ 4 \end{gathered}$ | $.339$ | $\begin{gathered} .26 \\ 5 \end{gathered}$ | $.865$ | . 187 |
|  | Equal variance s not assumed |  |  | $\begin{aligned} & 1.2 \\ & 91 \end{aligned}$ | $\begin{aligned} & \hline 106 \\ & .89 \end{aligned}$ | $\begin{gathered} .19 \\ 9 \end{gathered}$ | $.339$ | $\begin{gathered} .26 \\ 3 \end{gathered}$ | $.860$ | . 182 |
| Are you concerned by the levels of sugar in soft drinks? | Equal variance s assumed | $\begin{aligned} & 6.2 \\ & 21 \end{aligned}$ | $\begin{gathered} .01 \\ 4 \end{gathered}$ | $\begin{aligned} & 1.2 \\ & 84 \end{aligned}$ | 111 | $\begin{gathered} .20 \\ 2 \end{gathered}$ | $\text { . } 108 .$ | $\begin{gathered} .08 \\ 4 \end{gathered}$ | $.274$ | . 059 |
|  | Equal variance s not assumed |  |  | - 1.2 62 | $96 .$ | $\begin{gathered} .21 \\ 0 \end{gathered}$ | $\text { . } 108$ | $\begin{gathered} .08 \\ 5 \end{gathered}$ | $277 .$ | . 062 |

## 5. Conclusion

This work mainly presents an analytical study on consumer behavior on soft drinks related to coca-cola India plant. For analysis, it uses the SPSS tool and performs independent Samples Test. It analyzed the results on the basis of age and location factor. The study was held in the 4 region of India which are Chandigarh, Ambala, Rohtak and Nabipur. Out of 310 respondents $59.67 \%$ respondents are male and $40.32 \%$ are female respondents were participated in this survey. The maximum 183 number of respondents from the age group of below 30 and minimum number of respondents from the age group of 31-40 years. Data was collected by the survey and some important observations are concluded: In Chandigarh Region, male consumes soft drinks far more than the female. After analyzing the data by location, the Chandigarh location provides maximum response in terms of soft drink contains caffeine reviews and by the age, less than 30 year persons like soft drinks more as compared to other persons and results are shown analytically by SPSS tool.
In Future, it will hope to apply some government laws against the quality of these soft drinks with decidation of age factor for consuming these soft drinks etc.

## References

[1].W. Zilin, and Z. Nan, "Simulation of Consumer Purchase Behaviour Based on Computational Experiments," International Conference on Intelligent Transportation, PP.365-368, 2019.
[2]. M. Guermandi and S. Benatti, "Towards a Wearable Interface for Food Quality Grading through ERP Analysis," IEEE, 2019.
[3]. M. Menegoli and A. Corallo, "A Business Process Modelling Approach for Supporting Traceability in Food Industry," International Conference on Industrial Technology and Management, PP.265-269, 2019.
[4]. W. Khan and Y Aalsalem, "Five Acts of Consumer Behaviour: A Potential Security and Privacy Threat to Internet of Things," IEEE International Conference on Consumer Electronics, 2018.
[5].J. Esteban and B. Curto and V. Moreno, "A Cloud Platform for Food Sensory Estimations Based on Artificial Intelligence Techniques," IEEE, 2018.
[6].H. Fidan and A. Teneva, "Consumers Behavior of Restaurant Selection," European Union, 2018.
[7].R. Destari and L. Wahyuni, "Improvement Accuracy of Instant Noodle Product Selection Using Method ANP," International Conference on Cyber and IT Service Management. 2018.
[8].F. Ariyanti and S. Hadita, "Food Safety Knowledge and Practices on Food Virtual Shop," International Conference on Science in Information Technology, PP.396-400. 2017.
[9].G. Stevens and P. Bossauer, "Using Shopping Data to Design Sustainable Consumer Apps," IEEE, 2017.
[10].E. Camilleri and S. Miah, "A Consumer Analytics Framework for enabling Data Driven Marketing Intervention Methods," Asia Pacific World Congress on Computer Science \& Engineering, 2017.
[11]. Y. Zhao and L. Yang, "Channel Selection of a Fresh Product Supply Chain with Consumer Preferences, "The National Natural Science Foundation of China, 2016.
[12].R. Prasad and S. Umesh, "Factors affecting the Consumer Preference of NonPackaged Non-Branded Rice in South India, "International Conference on Advances in Computing, Communications and Informatics, PP.2253-2257, 2016.
[13]. J. Sharma and B. Sharma, "A Study on Consumer Behaviour Towards Select Branded Food Items, "IOSR Journal of Business and Management, 2016.
[14].Z. Dawei and W. Mengdi, "Research on the Influencing Factors of Consumer Purchase Behaviour of Green Food in Harbin, "IEEE, PP.4479-4482, 2016.
[15]. Z. Xinhua, "Investigation of Consumer Purchase Behavior of Towel," IEEE,PP.31833187, 2015.

