

## Nutrition Food Labels on Consumers Purchase Behaviour: A Triangulation Approach

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### Abstract

The research paper is about the efforts taken by the marketers in the new century to market the products with the most attractive term "Nutrition food labels". Nutritional labeling is the practice of providing nutritional information on the labels of food packages. Since nutrition label introduces the product to the distributor or target consumer by providing them with all the information regarding the product. The main aim of a marketer is to achieve maximum customer satisfaction, because once if a customer is satisfied it automatically increases customer loyalty and has a positive impact on the firm's profitability position. Our research would help the other researchers to understand the factors that will lead to final purchase identifying the factors that will influence the consumer in making their final purchase decision. The variable matrix proposed with regard to nutritional label would help the researchers in figuring out the measures that would intensely gain the awareness of making use of food labels. Further it would help other researcher to conduct similar studies in different geographical locations across the globe. Other variables can be included along with the variables identified in our study; researchers can also come up with a new study considering this study as a base paper. It is important to assign weights to most discussed variable and then to finalize the variable matrix and hence the researchers have used Dedoose software to analyze the literature review and to find the most promising variable which can be used for the present study. Moreover, lifestyle has a major impact on the consumers brand preference by giving importance to nutritious content. The researchers have concluded that the nutritious labeling descriptions should be considered by the consumers which will help them to maintain a balanced diet but are the consumers aware of the consequences of consuming the wrong product with false information. This mixed approach method has provided insights on quantitative and qualitative approach.

**Keywords:** Nutritional labelling; Marketing food labels; Purchase behavior; Health consequences.



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### 1. Introduction

Nutritional labeling is the practice of providing nutritional information on the labels of food packages. Since nutrition label introduces the product to the distributor or target consumer by providing them with all the information regarding the product. Nutritional labels acts as a primary link between manufacturers or the packer of the food on one hand and the distributor or the consumer on the other hand. Hence giving an opportunity to the manufacturer to impress the target consumers claiming that a particular product is of the consumer's choice suiting to their need, thus nutrition labeling unquestionably promotes the sale of the product. The marketers are more concerned about attracting the customers and retaining them for a longer span of time and so providing proper information on the product cover would fetch in more credits. The main aim of a marketer is to achieve maximum customer satisfaction, because once if a customer is satisfied it automatically increases customer loyalty and has a positive impact on the firm's profitability position. As previously mentioned marketing is not a single hand activity, but more about the efforts taken by many intermediates to keep the final consumer happy. Thus, the importance of Nutritional Labeling begins with the manufacturer, passes on to the packer and distributor, travels through the seller, and finally reaches the hands of the consumer. The primary object of designing nutritional or food labels is to help consumers make, informed choices by furnishing them with all relevant information and also to take efforts to ensure all the connected parties in the marketing channel are highly satisfied by keeping the final customers happy, satisfied and loyal. The nutritional value of foods, communicated to the consumer on the nutritional label as well as through other means, has been one important factor that influences consumer's food choices (Andreas, 2008), for a healthy living. Though nutrition labels are the most economic way of communicating the nutritional facts amongst the many ways, according to a study published in the "American Journal of Preventive Medicine" in November 2006 people with low literacy rate and numeracy mostly find it difficult to interpret the nutrition facts on the labels, at times people with high literacy rate also find it difficult to interpret such facts and would require the assistance of either doctors or health providers as to how to use the nutrition labels, because of its complexity. Knowledge of nutrition facts is one important factor that would credit to the cognition of making healthy food choices; knowledge is powerful because it

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renders attention, comprehension, memory, and decision making processes more efficient (Chiesi H, 1979), (Ericsson, 1995), which would increase the use of nutritional labels. . The increasing issues, in recent times, such as obesity and other health problems amongst the young population across the world which is further leading to more complex and serious health issues having a chain effect, due to the food choices that the consumers make either by ignoring the dangerous caused by such food product or being deceived by the manufacturers, distributors or marketers of the product by the way of providing them with wrong information, has paved way for bringing in regulatory bodies that has made nutrition labels on pre-packaged food mandatory and govern the system that would provide nutrition labels in many countries like US, Europe, UK, India and several other countries. In the United States established rules for nutritional facts panel making it mandatory for all the ready to eat products in 1990 which was not amended until 2016 (Wikipedia, n.d.). In the U.S. food label is primarily regulated by the Food and Drug Administration (FDA) and United States Department of Agriculture (USDA), depending on the type of foods and beverages. NCBI (n.d.) Claims that the federal food drug and cosmetic act of 1938 replaced the food and drug act 1906 which further broadened Food and Drug Administration authority to strengthen the regulations that would govern the nutrition or food labels which would in turn help them in mandatorily prohibiting substandard products and those products providing misleading or wrong information on their labels. FDA is also authorized to ask for additional information for special dietary food and also requires that the food labels must affirmatively reveal all facts with respect to the representations made to the product, under the Nutritional labelling Act (NLEA) all packaged food except for the products that have exemptions under the act must have the nutrition labels providing for voluntary disclosure of nutrient values for fresh produce and sea food and disclosure of nutrient contents or facts in a specific mandatory order. European commission is the authority that governs that nutrition labels on the pre-packaged food products, though the comprehensive provisions regarding the labelling was issued in the year 2016 for mandatory disclosure of nutrient facts on the labels it is not as stringent in US, it is far flexible when compared to US, in fact nutritional labelling is still voluntary in Europe (Entis, n.d.). In UK food standard agency governs the regulation of nutritional labelling making it mandatory for the pre-packaged to have nutritional labels on it. Similarly, in Canada, Health Canada and the Canadian Food Inspection Agency (CFIA) oversee the regulatory process of food labelling and health Canada is responsible for setting health and safety standards and for developing food labelling policies related to health and nutrition under the Food and Drugs Act. CFIA is responsible for administering other food labelling policies and enforcing all food labelling regulations on the other hand as far as consumers of Canada are concerned around 40% of them are concerned about the nutritional facts (NCBI, n.d.). In India, nutritional labelling regulations are defined by the Food Safety and Standards Authority of India (FSSAI) through the Food Safety and Standards (Packaging and Labelling) Regulation, 2011. It provides with guidelines as to what a nutritional label on any pre-packaged food must contain, few of the basic guidelines that FSSAI have laid down amongst the many are that the information must be in English and Hindi, the label should not be in such a fashion that it can be separated from the product, it should not provide false and deceptive information, and must be legible. The legal procedures and penalties are so rigid in foreign countries particularly in the United States that the recalling of substandard products is mandatory unlike in India it is voluntary and therefore the regulations that govern the food/ nutritional labels in India must evolve according to the need.

### 1.1. Nutrition Labeling and Marketers Concern on Consumer's Health

Nutritional Labels are not just used to sell the products but to make consumers aware about a particular manufacturer's products. Specifying details such as serving size, calories from fat and total fat content enables to know and compare the serving size against how much an individual usually eats. Calories measure how much energy an individual get from serving nourishment. Eating an excessive number of calories everyday will lead to weight gain. American Heart Association prescribes that food calories should be less than 30% in order to maintain healthy weight. Information such as Low fat, low calorie and low carbohydrates helps to pick the most beneficial alternative and to compare various food brands and to select the healthiest choice. So, marketers make sure that along with profits, consumer's health is also given importance. Shopping habits have been identified as being a solid indicator of label use. Buyers investing more time or having more time to purchase groceries are probably the one who use nutritional labels. Drichoutis (2005) Says consumers those who put less emphasis on price are the ones who check the ingredients on the label and make healthy choice. Contrasted with 'traditional' nutritional labels which publish only quantitative data, several studies revealed more noteworthy effectiveness of using images and symbols. Buyers tend to look more carefully at the nutrients they wish to avoid. Most commonly sought nutrients were fat, vitamins and minerals, energy content, protein, cholesterol, carbohydrates and serving sizes (Kreuter, 1997).

## 2. Significant Contribution of the Study

The current generation is more health conscious and will have wider dietary choices. The consumers keenly paying attention towards the product quality and safety and would demand the manufacturers or organizations to provide with accurate and precise nutritional facts on all processed food. Food labels can act as a robust tool for marketing, as stated before these labels introduces the product to distributors and consumers at first and can have significant impact on the target consumer group. More frequently or rather habitually nutritional labels are given the endmost importance amongst the medium of communication though when manufacturers or organizations employ this mode of communication it would give them an opportunity to present its products distinctively. A perfect neat and tidy label with apt colors and accurate information like serving size, contents etc improves the quality and ability to capture consumer's attention. It can act magical in helping the product to stand out in the crowd acting as an additional factor that would attract consumers to buy the product. Since, most of the variables identified for the study

are quantitative in nature, and most of it depends on the psychological aspect of an individual, it would be hard for the researchers to draw valid and reliable inferences from the data collected; it is also essential for the researcher to make up the gap between the two and the foremost endeavor of content analysis is to bridge the gap between pure qualitative and pure quantitative research helping analyzing perceptual constructs. Hence content analysis can be one such research tool that will assist the researchers to systematically provide quantitative description examining the manifested content. Our research would help the other researchers to understand the factors that will lead to final purchase identifying the factors that will influence the consumer in making their final purchase decision. The variable matrix proposed with regard to nutritional label would help the researchers in figuring out the measures that would intensely gain the awareness of making use of food labels. Further it would help other researcher to conduct similar studies in different geographical locations across the globe. Other variables can be included along with the variables identified in our study; researchers can also come up with a new study considering this study as a base paper.

### 3. Review of Literature

Food labels are very important tools that promote a balanced diet and also public health and wellbeing. This helps consumers to compare various products and to make healthy decisions. This statement can be supported by the definition given by IR (2011) “any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoption of food choices and other food and nutrition-related behavior conducive to health and wellbeing” Even though there is increasing awareness among the people, regarding the usefulness of labeling, awareness needs to be created to bring the relationship between diet and disease says (Tumulak, 2015). Nutritional labels on packed foods are the most prominent source of information. Labels are seen as very credible source of information and many purchasers utilize these labels to guide their choice of nourishment items. However the utilization of information varies significantly across subgroups, with lower use among children, youngsters and grown-ups who are obese. Nutritional sources of information are simple and cost-effective also. Thus it helps companies to inform the consumers in crisp and clear manner (Sarah and Campos, 2010). A national overview survey found that 75% of respondents focused on food labels whereas just 1% utilized nutrition data. However 36% of respondents claim that they generally read the details, studies also examined the increased use of nutritional labeling. Nutritional labels provide with important information about the products. (Havish Madhvapaty, 2015) this study examines the requirement of other alternative nutritional labels distributing questionnaires were distributed to 4 cities targeting the product to children. Labels including FOP labeling and traffic light are analyzed. It is presumed that there is a need for proper utilization of these labels with clarity and no overload of information. Transformative food policy of consumers requires transparency of the content of the food products through nutritional labels. It is also key focal point of efforts so as to improve the health standards and to achieve food safety and quality. In fact this also ensures to achieve sustainable food chains (Freeman, 2015). According to Drichoutis (2006) Drichoutis (2006), there is increasing concern regarding the type of food that the consumer consumes. This brings light on the importance of alert towards intake of nutrients. Consumers use nutritional labeling mainly to avoid nutrients such as fat and sugar rather using it for selection of nutrition rich product and so maximum benefit of nutritional labeling is not obtained. Foltran (2010) Studied about categorizing food based on their nutritional content which is termed as nutritional profiling which is used for food labeling. Evidence shows that there exists contrasting relationship between obesity and diet and the introduction of nutritional profiles has very limited impact on health outcomes. Krystyna (2011) Study shows that nutritional value information has impact on food labels which affect the dietary choices of consumers and shopping behavior. In this study data is collected from 200 adult consumers from Poland’s capital city. Result shows that more than half of the consumers are aware of the labels which are widely determined by education level and gender and also Income has very low influence on purchase decision. (Shine Angela, 1997), the researcher surveyed 200 consumers from four outlets. Questionnaires were issued which consist of 27 questions and 6 attributes such as quality, price, taste, nutrition, brand, and respondents provided convenience for ranking. Quality and taste were top-ranked as compared to others. The researcher analyzed using SPSS tool and found that marital status, Education level, the age, gender and size of the household have an impact on usage of nutritional labeling. When it comes to consumers, gender plays a very important role in using nutritional labeling. Usually female spend considerable time in selecting the product, and their nutritional needs are quite different from the male. This was strongly supported by Law (2011), who inferred that female’s way of using the information is quite different from that of males, and they are more health conscious. The main reason being females are more concerned with weight and appearance, identifying food with less cholesterol and fat. More or less, females are typically giving more consideration towards the dietary choice contrasted to male. Researchers feel that men also should consider its importance. This is where people realize about unhealthy food and their effect on health. Genannt Bonsmann (2010), analyzed 27 EU (European Union) states and Turkey regarding the level of penetration of nutritional labeling information and also to understand how the information helps consumers in making dietary choices. 84 different retail stores were chosen with over 37,000 products. Most of the package contained BOP (Back of Package) labels, which is widespread versus FOP (Front of Package). Among all those products, food cereals showed high levels of penetration. Awareness of labeling among various groups was examined in the research work done by Hayati Adilin Mohd Abd Majid (2015) Secondary data was collected and discussion made in the areas elaborating the importance of nutritional labels and promoting awareness activities that were undertaken. The result of the study is that different groups use nutritional labeling in different proportion. Highly educated, urban consumers, females and elderly people’s level of utilization of label information are quite high as compared to others. The various methods of promotion are healthy logos, TLL and Facts up Front. Even though producers use labels in order to promote sales,

(Gabaix, 2006) comes with a contradicting point saying that firms which produce less nutritious products often hide their nutritional values and don't reveal the exact components. This is mainly due to fear of survival and existence of competition in the market. (Elise Carbonneau, 2015), analyses the impact of the nutritional information on the intake of energy, attitude, and desire for food. Respondents were provided meals with only differences in the label: Low fat, Energy label, and no label. It was found that there was no significant influence of different types of labels on the energy intake levels although low-fat labels lead women's to increase their hunger perception. According to Drichoutis (2006), there is increasing concern regarding the type of food that the consumer consumes. This brings light on the importance of alert towards intake of nutrients. Consumers use nutritional labeling mainly to avoid nutrients such as fat and sugar, and so maximum benefit is not obtained. Since shopping time is insufficient, the nutritional information must be presented in a way that it is easily understandable. Nutrition information provides details at a time of purchase to help consumers in providing nutritious food choice. Especially MTL (Multi Traffic Light) system helped the consumers the most. MTL uses colors to indicate high (red), medium (amber) and low (green) as percentages to the ingredients. Foods with the green signal are healthier than red ones. These are presented on the front side to make it more visible to consumers (Traffic light rating system). When it comes to consumers, gender plays a significant role in using nutritional labeling. Many studies including (Law, 2011) inferred that female's way of using the information is quite different from that of males, and also they are more health conscious. The main reason is, female are more concerned with weight and appearance .so they identify food with less cholesterol and fat. More or less, females are typically giving more consideration towards the dietary choice contrasted with a male. Household size and type also have an impact on nutritional labeling use. A household with children and married people check the information and use it more efficiently to take a decision. Consumers who are aware about the relation between diseases and diet-related to their lifestyle are more likely to use the information. These days, there is increase in consumer awareness. This is because of the increase in awareness about healthy living. In Malaysia, nutritional labeling is considered as main component in Malaysian Dietary Guideline so as to develop the importance of nutrients. Since there are various medical problems that occur due to food consumption, nutritional labeling is given main consideration. Each country adopts its own strategy in educating their people about labeling. Musaiger (1989) Studied about the nutritional labeling regulations. To ensure food safety and control, food labeling and control regulations are considered important. Implementation of labeling regulation before (1983) and after (1987) are studied where it was declared that there was increase in the nutritional information after implementing the food labeling regulation.

#### **4. Text and Image Analysis; A Qualitative Approach**

There is no doubt that purchase is a routine activity which every individual gets involved because of the enthusiasm, pressure to purchase or because of the need for the product or service at one point of time. Purchase decision needs deep involvement before selecting the product or service. There are many instances where the consumer after buying the product might have confusion about the purchase decision and may feel guilty about the same, wasting money, time and efforts if the products price was more than the value received from it. Thus, the consumers are positively influenced or get negatively confused because of the product information, which is available in the market. In the recent times, consumers have gained the habit of reading the information on the food labels and then get involved in the final purchase. All these information is promoted through various media such as product information on the labels, public campaign, printed advertisements, television and radio advertisements etc. The visual elements are more appealing, it is easy for a consumer to understand, and hence "print advertisement" has gained popularity in the recent times. The ambience of the advertisement is all about understanding the message content and the communication. Consumer's mood creation plays an important role through advertisement and the text message, which is present along with the blurb. The visual attraction is because of various elements such as colours theme, text message, axial balance between pictures and text, free empty space, and the general arrangement of the font and the design. As the saying goes, 'a picture says a thousand words.' In other words, images communicate succinctly. For example, a raw chocolate without a cover might be interpreted as energy, indulge or even sex. While text and images differ in many ways and can exist independently, they are in fact complementary and non-competing communication mediums, and to get a holistic view of the world, we would need to analyze both. Understanding images is as important as understanding text, as together they provide a more accurate picture of reality. Thus, it all depends on the message, which is deconstructed by the readers. A part of this research is also to analyze the advertisement pictures let out by the Indian government, spreading information on food safety, food labels and its importance using an "image content analysis and description". France, Germany, Italy, Netherlands, New Zealand, Norway, Slovenia, the UK, South Africa and the USA have been using a variety of approaches with regard to nutritional labelling and they are: traffic light (colour signal concept), healthy eating symbols etc. for the purpose of this qualitative method, three pictures were taken for the analysis.

## 4.1. Efforts Taken by Ministry of India to Spread Awareness on Food Labels and its Importance

**Read Food Labels for Safe & Healthy Choices**

**Food label must carry**

- The name of food
- List of ingredients
- Nutritional information
- Declaration regarding vegetarian or non-vegetarian
- Declaration regarding food additives
- Name and complete address of the manufacturer
- Net quantity
- Lot/Code/Batch identification
- Date of manufacture or packing
- Best before and Use by date
- Country of origin for imported food
- Instructions for use

**Why should we read labels?**

- List of ingredients – the ingredients list tells about the contents in the packaged food
- Nutritional Information - It provides information on the calories, protein, carbohydrate, sugar, fats, sodium etc. per serving
- Lot/Code/Batch identification - for traceability and tracking
- Date of Manufacture/Packing/Best before date/Use by date informs us about the shelf-life of the product

**Make Reading Food Labels a Habit**

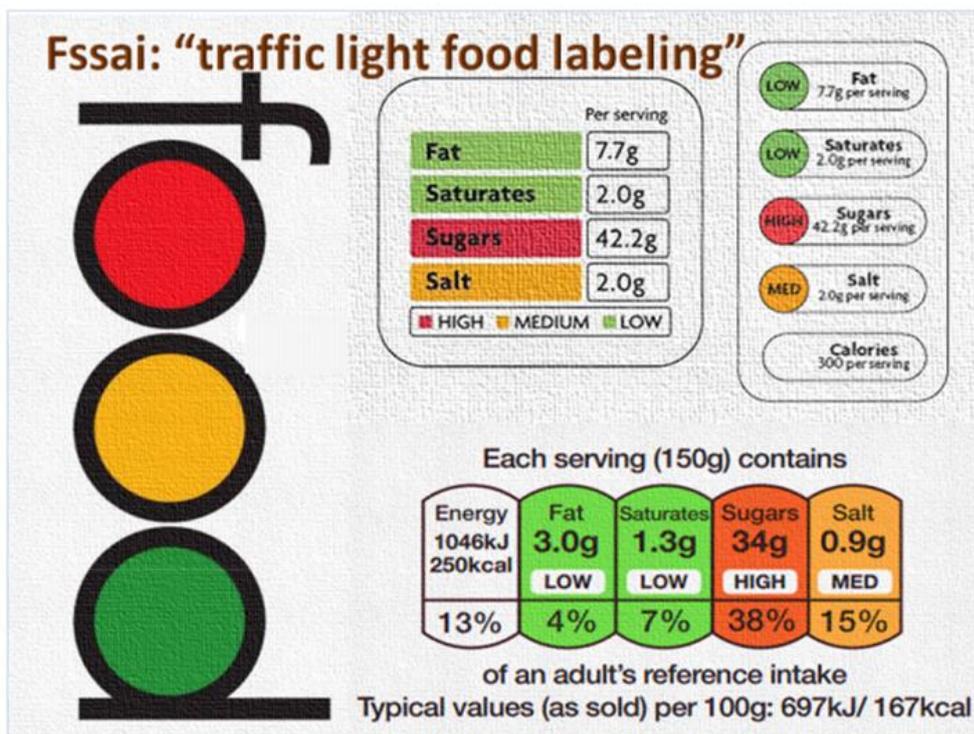
**FSSAI**  
FOOD SAFETY AND STANDARDS AUTHORITY OF INDIA  
FDA Bhawan, Kotla Road, New Delhi - 110002  
FAX: 011-23220994 PORTAL: fssai.gov.in FSSAI HELPLINE: 1800-11-2100

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### 4.1.1. Inference for the Above Picture

The above picture, which has been officially let out by the Ministry of Consumer Affairs, Food & Public Distribution, states that the government has taken efforts to motivate the consumers and the public, to develop the habit to read the food labels. One factor, which has to be understood, is that, label has many contents and one of the content is nutritional labelling. Thus, it has been made mandatory to provide the information. There is always a community of consumers who give a lot of importance to nutritional labels before getting involved in the final purchase decision. This information at times motivates the consumers to trust the product. The nutritional labels are officially promoted and certified by the Government and hence the consumers can trust those products with the certified markings. There are also some local cheap products in the market, which has the fake certifications, and hence the consumers have to be look for the original government certifications and not the other quality standards (Food Safety and Standards of India, n.d.).

## 4.2. Efforts Taken by Ministry of India to Spread Information on “Traffic Light Food Labelling”



### 4.2.1. Inference for the Above Picture

A very simple and clear initiative taken by the Ministry, which is appealing visually, is the tri-colour information classification on food labels. Consumers who are not educated or those who do not have proper base knowledge will find it very difficult to read and understand the content can look forward for the colour classification and then put themselves into the final purchase decision. For a country like India, where there is an exist of illiteracy rate these innovative decisions are very important and this initiative by the government has to be appreciated. With three categories of High, Medium and low it is easy to understand the nutritional content and hence, the consumer can take safer and wiser purchase decision. This will remain in the minds of the consumer for a longer span of time and will create loyalty. This can be deconstructed as, easy visual classification and identification creating better consumer trust (Health Life, n.d.).

## 4.3. Efforts Taken by Food Safety and Standards Authority of India to Provide General Instruction and Golden Rules for the Community

**fssai** 10033062320007 Registration No. Fruit and Vegetable Retail

**With Us You Will Get Safe Food**  
**I Follow These 10 Golden Rules**

Hygiene Rule Codes		Hygiene Rule Codes	
<b>1</b> Keep vending premises/cart clean and pest free		<b>6</b> Wear clean clothes/uniform	
<b>2</b> Use potable water for washing fruits and vegetables		<b>7</b> Wash hands before & after handling food and after using toilets, coughing, sneezing, etc.	
<b>3</b> Keep sliced fruits & vegetables covered and at cold temperature		<b>8</b> Use water proof bandage to cover cuts or burn wounds	
<b>4</b> Wash chopping board knives, etc. with clean water before and after use		<b>9</b> Do not handle food when unwell	
<b>5</b> Keep dustbins covered		<b>10</b> Use clean and separate dusters to clean surfaces and wipe utensils	

If any concern Call toll free 1800 112 100  
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Always quote FSSAI Number for quick action

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### 4.3.1. Inference for the Above Picture

From the above picture, it is clear that, the Indian government has taken efforts to connect with the Indian community through social media (WhatsApp) and through a toll free number to deal with customer and consumer feedback and complaints. These initiatives taken by the government will motivate the consumers be emotionally attached with the products and services certified by such quality and food standards. Powerful brand loyalty is through promotional communication rendered by the producers, marketers, brand managers and government for the betterment of the consumer community. This picture can be deconstructed as, the awareness message from the ministry of India, portraying the easy connection to provide feedback and the availability of the services using digital applications.

## 5. Hypothesis Development

Before empirical evidences and facts are gathered using a statistical analysis, hypothesis has to be framed. Hypothesis construction is the heart of a research work as it deals with the preliminary assumptions of the researcher (W. D. W., 2002), (Hulley, 2001), (Wulff). These assumptions are the original thoughts of the researcher or the ideas, which tentative assumptions derived after the literature, review screening. One of the most important criteria to frame hypothesis is to answer the research questions framed for the research work. In this research, the researchers have used a casual hypothesis because the variables used in the conceptual model have a unique nature of cause and effect relationship (R. B. H., 2006), (Sackett, 2000), (Fisher, 2007). The first variable is called the independent variable and the latter variable is the dependent variable. Theories are the main sources of hypothesis. The logical deduction theory on nutritional labelling leads to the formation of hypothesis. The hypothesis in this research gives a definite point to investigate the relationship between the variables, The sources of data have been neatly specified that, the hypothesis and the conceptual model is framed after a detailed review of literature work of the past researchers. Since there are many variables striking an influential relationship on another variable, it helped the researchers to choose the best statistical tool “hierarchical mediating analysis”. To test the relationship correlation has been employed for this study.

## 6. Mixed Research Approach

Consumer’s attitude and behavior towards nutritional labelling cannot be quantified at the initial stage and hence it is important for the researchers to first find the most important variable by using a qualitative approach and variables are selected based on different approaches (Anonymous), (Anonymous), (Gunter, n.d.). Every researchers who have worked on nutritional labelling have listed many variables based on their assumptions and the past research reviews which they have come across. Blindly we cannot use all variables and build a conceptual model or a variable matrix and hence certain procedures has to be followed as specified by past researchers (Newcombe, 2017), (Whitley, n.d.), (Singer, n.d.), (Alker, 1964). Taking into consideration the past work, we have used many approaches such as content analysis, measuring difference in opinion in variable selection, thematic approach. We have also gone through much base work to overcome problems in the qualitative methodology. It is important to assign weights to most discussed variable and then to finalize the variable matrix and hence the researchers have used Dedoose software to analyze the literature review and to find the most promising variable which can be used for the present study (Berelson, 1952), (Deutsch, 1969). The researchers have used a mixed method, which follows a qualitative and quantitative work. The integration of quantitative and qualitative data in the form of a mixed methods study has great potential to strengthen the rigor and enrich the analysis and findings (Desoose blog, n.d.). Mixed methods are useful for research has been used in various dimensions such as, Discussed triangulating qualitative and quantitative data, Reviewed the debate and established connections within the two traditions, Identified a classification system of types of mixed methods designs (Anonymous), (Guide, n.d.). The procedure, which has to be followed by the researchers to conduct a thematic approach, has also been adopted as per the instructions and guidelines given by other researchers. Strong justification has also been used through citations of reviews when and where needed to substantiate the research work to be a meaningful one. AHRQ (n.d) Share their research experience by saying that it is always better to give importance to mixed methods and they have used the inductive thematic approach, which has helped them to find and examine range of research related challenges faced by many researchers and participants of the workshop. They have also mentioned about transcribing the recordings of the focus group and other participants through which they have collected data using an interview method and each transcript has helped them to identify a theme, which is very relevant to the research questions framed for the research work. Creswell (2003), approach is the most commonly used in qualitative analysis, because it is a simple, less time-consuming and flexible approach. In fact, this approach can be used with many kinds of qualitative data, and with many goals in mind. For that reason, thematic analysis is often implicitly and explicitly a part of other approaches of data analysis including grounded theory, narrative analysis and IPA. Researchers often use thematic analysis as a first step to look for broader patterns in their work in order to then conduct a more fine-grained analysis using alternative approaches, if necessary. The researcher has also suggested a systematic procedure, which has to be followed for successfully conducting the thematic analysis after following the methods suggested by past researchers (Creswell, 1996), (Hilary, 2015). Other views such as the pragmatic view of thematic analysis(Braun), Code development for thematic analysis (Food Risc Resource Centre, n.d.), inductive and deductive coding approach using thematic dimension as the present research deals with acquiring rich knowledge from past literature sources and also develops a new model and variable grid (Nicola and Gale, n.d.).

Table No-1.1. Showing The Steps Adopted For Thematic Approach

Phase	Description of the process	Result
<b>Familiarization with the data</b>	The researchers have taken wide range of articles, which has a narrow focus with regard to the study topic. The researchers have also glanced through every aspect of the articles and have taken only the most suitable article for this research work on Nutritional Labelling.	Helped to finalize the needed reviews rather than using unwanted articles and unrelated work to the research study. This initial familiarization of the data also helped us to find the research gap from the existing reviews and information.
<b>Generation of initial codes</b>	Various papers and research work published by many researchers has been taken and we have identified the common meaning and definition specified by other researchers. Many new definitions have also been identified. It is very important to categorize the variables based on same meaning, nature, effect, description and hence weights have been assigned from 0 to 10 based on the level of importance and frequency of the same term being used by other researchers.	<ol style="list-style-type: none"> <li>1. Helps to find the most suitable variable for the study</li> <li>2. Helps to form a variable matrix and helps to get familiar with the variables to be used for the research model with more narrow focus.</li> <li>3. Helps to frame research questions for the study.</li> </ol>
<b>Searching for themes</b>	Each variable is classified under a common unique heading, which is a theme. The entire theme makes the concept and hence it is important to name the theme.	New concept has been framed and new variables have been suggested which contributes towards the study theme "Consumer understanding towards nutrition labelling".
<b>Producing final variable matrix</b>	Accurate representation of the variables is seen in the matrix.	Description of the findings given as summary for the conceptual model.

## 7. Variable Matrix for Nutritional Labelling

The following variable matrix for nutritional labeling has been derived after a chronological process regarding to thematic understanding of the literature sources and classification of variables using qualitative software Dedoose. The researchers have taken ample literature sources for this purpose and this variable matrix is an original work.

### 7.1. Variable Matrix Showing the Factors Influencing the Choice of Nutritional Labelling

Variable selection using Dedoose software	Count	Min	Max	Mean	Median	Mode	Range	Sum	SD	Variance
Credible information	8	5	5	5	5	5		40	1.9	
Legal information						NaN				
Information officially declared by Government						NaN				
Attitude and behavior	1	5	5	5	5	5		5		
Personality factors						NaN				
Extrovert						NaN				
Inquisitive to know						NaN				
Away from unhealthy products	2	5	5	5	5	5		10	5	
Diet consciousness						NaN				
Gym and sports						NaN				
Better food choice	3	5	5	5	5	5		15	3.5	
Based on media influence						NaN				
Nature of product advertised						NaN				
Social Media Influence						NaN				
Due to family influence						NaN				
Due to self control						NaN				
Burden of spending	1	5	5	5	5	5		5		
Family pressure						NaN				
Locality of residence						NaN				
Occupation and income						NaN				
Consumers awareness	1	5	5	5	5	5		5		
Consumers interest	1	5	5	5	5	5		5		
Demographic influence	3	5	5	5	5	5		15	3.5	
Diet and balanced meals	2	5	5	5	5	5		10	5	
Expressing nutrient values	2	5	5	5	5	5		10	5	
Feeling of Responsibility	1	5	5	5	5	5		5		
Food Regulations	1	5	5	5	5	5		5		
Good packing and packaging	1	5	5	5	5	5		5		
Health Consciousness	5									
Healthy eating	2	5	5	5	5	5		10	5	
Influenced by external sources	1	5	5	5	5	5		5		
Information source	3	5	5	5	5	5		15	3.5	
Legal Requirement	4	5	5	5	5	5		20	2.9	
Motivation to eat healthy	2	5	5	5	5	5		10	5	
Reinforcement of unhealthy eating practices	1	5	5	5	5	5		5		
Social marketing programs	1	5	5	5	5	5		5		
Values obtained	1	5	5	5	5	5		5		
Willingness to pay	2	5	5	5	5	5		10	5	

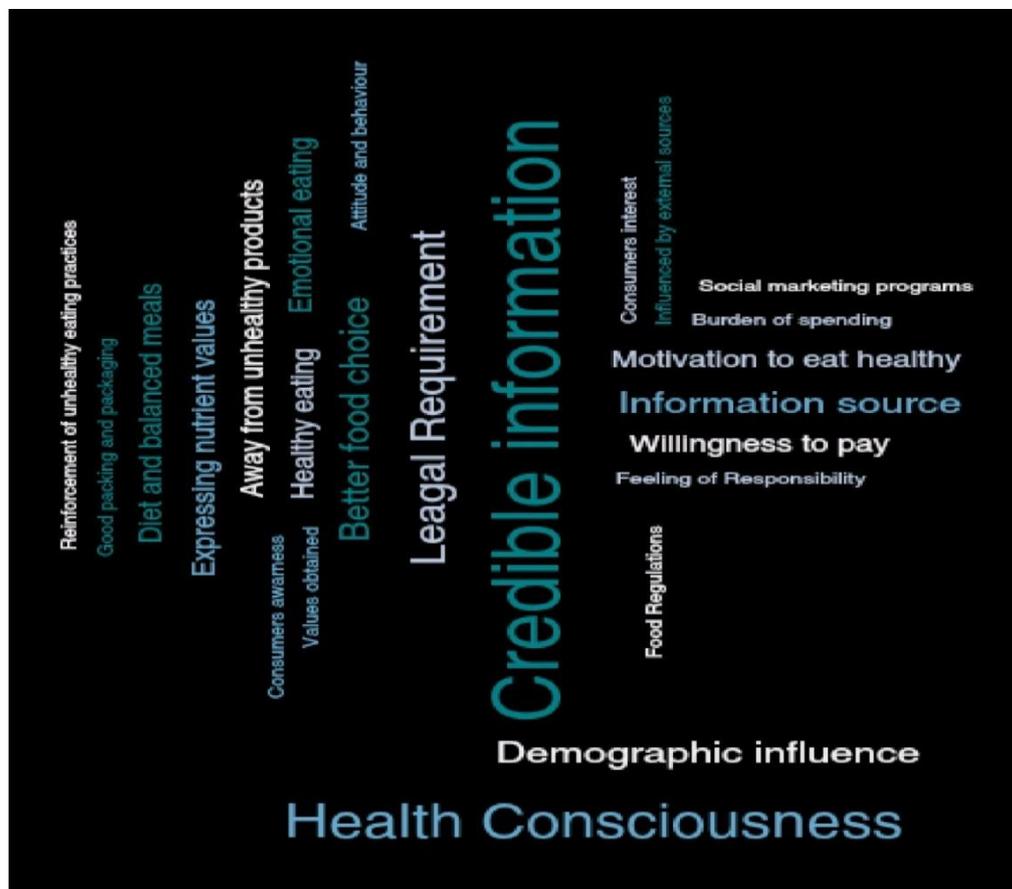
### 8. Dedoose for Qualitative Analysis

Dedoose is web-enabled application created by Drs. Eli Lieber and Tom Weisner, the researchers who were professionally trained social science researchers with a decade's experience of researching, employing psychological and anthropological methods. While working to cut the edge between mixed methods they sensed that there was dearth of tools and lack of technology that would aid them in managing, sharing and analyzing an increased amount of mixed research methods being gathered by representatives of geographically spread teams. In qualitative enquiry

software enabled qualitative data analysis tools such as NVIVO, ATLAS.ti and Dedoose has become popular. Qualitative researchers have the propensity to use qualitative analysis data analysis software's available as a tool kit for qualitative researches. When we begin commenting on the trend of the way of analyzing qualitative data, it was noticed that, on one hand qualitative data analysis software was found to be more habitually believed as most intrinsically trustworthy with respect to substantiating the validity of the qualitative data analysis, advocates of software packages states that, highlighting the three aspects of validity that qualitative data analysis software can aid in enhancing are consistency, efficiency and transparency. For instance it is suggested that using software enabled research tools can vitally enhance the speed of analyzing qualitative data. On the other hand, other literature discuss that the word qualitative analysis is only typically confined to qualitative research stating an instance that some of the researchers propound that employing qualitative data analysis adds on to the rigor of the study, by endorsing to the term rigor researcher try to reflect upon as to how the term is used in qualitative research, which are relate to, operationally defined variables, procedurally conducted data analysis based on statistical rules and pursuit of generalization. In the context of qualitative research the term rigor intents to state similar desire for clearly defining the procedures and repeatable results. The term rigor intrinsically associated to the notion of reliability, especially to the interrelated reliability embedded in the qualitative data analysis software packages. The inter rater reliability becomes a major indicator of validity in the collaborative study, however researchers seldom unpack the underlying assumption when they use terms like rigor, inter rater reliability meaning that the terms are employed without plentiful attention to its positivist derivation.

### 8.1. Packed Code Cloud

The packed Code Cloud has been created using Dedoose "qualitative software". To understand how the codes have been given importance it is important to first understand the procedure which is followed to perform the qualitative study. The researchers (Authors) have first uploaded the needed articles from various sources (Data base) and have started to read the articles on all dimensions. Then the second step is to add codes with a common name to the most promising statements which are seen in the past research works. After assigning codes (parent coded), the researchers have also categorized the support variables (child-code) under the parent code. Thus only the most influencing variables have been taken into consideration. These literature reviews and variable selection gives a better insight to frame research questions which are helpful to solve the complications involved in the research problem. Based on the variable selection a variable grid (matrix) has been built for better understanding the relationship between variables. Thus using the qualitative aspect, the researchers have framed the conceptual model. It has to be understood that the conceptual model has been framed after a detailed review of all the literature work related to the study. Hence, the conceptual model is a representation of the child variables being categorized under the parent variable.



## 8.2. Objectives of the Study

1. To find the elements that lead to final Purchase
2. To propose variable matrix with regard to nutritional labelling and suggest measures to gain more awareness on nutritional labelling

## 8.3. Geographical Location Covered In the Study

Bangalore which is officially known as Bengaluru also known as the IT hub of India, is the capital city of the Indian state Karnataka, which is located in south India on the Deccan plateau with a population of over a ten million according to the 2011 census (Aronson). Bangalore has become the adopted home to a large number of people coming from all parts of India and the world as well. The IT hub of India has become the preferred destinations for students, and IT professionals due to its cool climate, competitive environment, its cosmopolitan culture, growing opportunities for one, in his/ her professional or educational career among the various other reasons add to its attraction. Though Bangalore, Silicon Valley of India is known for its fast development in par with Mumbai and Delhi, we can meet people from all occupations. Indra Nagar is one among the most preferred areas which lies in the heart of the city which is also one of the busiest commercial localities in Bangalore. Marathalli is one of the most sought after residential areas by the employees of many IT companies situated in the area and others also for the reason that the Marathalli Bridge is place which connects too many places in the city having many reputed educational institutions, shopping malls and Hindusthan Aeronautics Limited (HAL) airport in its neighborhood. White Field another similar area where IT professionals of top notch companies around Bangalore dwell here, the cost of living in this localities is quite high for the reason. Jayanagar is another posh area which still holds the old Bangalore charm, a calm and well established and largely planned residential areas lying in proximity to many other commercial areas. Koramangala is considered as one of the best residential localities in the city, the cosmopolitan area consists has many educations institutions and well known restaurants. People dwelling in these localities predominantly will be well aware about nutritional labels, either because of the education that they have or because of their health consciousness.

## 9. Scope of the Study

The previous research work of Boyatzis (1998) found that the use of nutrition labels is high, but measures that are more objective suggest that actual use of nutrition labeling during food purchase may be much lower. Whether or not consumers can understand and use nutrition, labeling depends on the purpose of the task. Thus, there is always a need to check if the consumer community gives nutrition Labels importance before getting involved in the purchase action. Nutritional Labelling is an expensive term because a lot of spending is involved in certain products, which are pro-biotic, or very natural depicting a healthy concept. Nutritional label plays an important role in providing the relevant nutrition information to consumers says (Fereday, 2006). This research will help us to know the factors influencing the consumers to prefer nutrition labeling. The scope extends to the city of Bengaluru in the State of Karnataka. Only select expensive residential areas have been selected for the research study. Thus, the scope of the study is confined to consumer community residing in expensive areas.

## 10. Research Methodology

Research methodology is an outline on how to proceed with the research work. Research methodology is also an art of knowledge as it helps the researcher to arrange the relevant information in chronological order. The primary importance is given to statement of the problem, which is the heart of the research work. The researcher from the detailed study of various literature sources has identified the existing gap and issue, which forms the problem statement. The second most important is given to the significance of the study because it explains how well this study will be useful to the concerned parties. The research objective is the most pervasive myth for all research work, and hence the primary and secondary objectives of the study are listed out in this research paper. The researchers have to provide detailed understanding to the readers on what type of data has been used and how the collected data has been analysed. Hence, the data collection method and types of data which has been used for this research is also a part of the research methodology. The research collects data from the most relevant sources. The study has been collected in the city of Bangalore. The population is a mixed population representing the perfect customer profile and intention and curiosity towards nutritional labeling. Bangalore city is a place of mixed culture. This heterogeneous group comprises of respondents belonging to different backgrounds and hence the research has more the scope to collect different opinions without restricting to a particular group of samples. The data was collected using convince sampling method. The researchers have collected the data from 225 respondents who visited the departmental stores. The corporate stores were picked based on the geographical location, which had a mixture of populations representing some unique characteristics. Indira Nagar (N=45), Marathalli (N=45), Whitefield (N=45), Jayanagar (N=45) and Kormangala (N=45). Departmental stores were not restricted to certain brand or chain of stores because most of the corporate stores are now selling products, which give a lot of importance to Nutritional Labeling. But a variety of people are influenced by a variety of factors and hence to check which particular rescinding geographical respondents give importance to Nutritious Labeling the location was used as one of the essential strata element. The survey was also sent to expert opinion for validation. Based on the view slight corrections were incorporated before the data collection process. The other researchers in the name of "Measuring the Final Purchase Decision based on Nutritional Labeling Related Attributes" can use this research instrument framed by the researchers (Anand Shankar Raja M, Anisha, and Divya).

## 11. Reliability Test

As this research has used a Likert type scale it necessary to test the reliability and internal consistency of the questionnaire for which a Cronbach's alpha test is employed. For the purpose of reliability, there were 24 scale constructs categorized under 7 main headings as seen in the variable matrix. Cronbach's alpha for the entire set of scale items is (.874) which is above 0.70 is usually acceptable. Cronbach's alpha was created by Lee Crobach in 1951 to give measure of consistency of the test or scale. It is expressed between 0 and 1. Internal consistency describes the degree to which all the items in the test measures similar idea. Validity of the test can be ensured for a research or examination through internal consistency. This reliability estimates also determines the amount of measurement error in a test. The internal consistency or average correlation of data is determined by Cronbach's alpha to check the reliability of the test says (Wikipedia, n.d.). The value of the alpha is increased when the objects in the tests are correlated. Nonetheless, a high coefficient alpha does not always mean level of internal consistency. This is on account of alpha which is additionally influenced y the length of the test. Thus, to increase alpha, more related things testing a similar idea ought to be added to the test is stated by Gill Cowburn (2005).

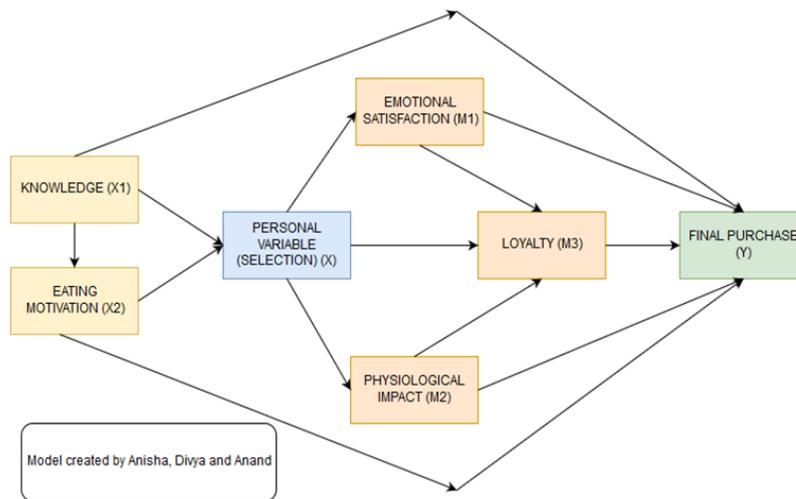
Reliability Statistics	
Cronbach's Alpha	N of Items
.874	24

## 12. Scope for Future Research

The researchers who carry their research work in the nearby future can incorporate new variables instead of concentrating on emotional satisfaction, loyalty, purchase decision, etc. The researchers can also work on a simple qualitative methodology and can explore different qualitative tools. Qualitative methods will have proper scope for the research recognition. The future researchers can make the best use of the available literature reviews and can construct their scale or customer satisfaction, loyalty scale to measure the effectiveness of nutritional labeling. The problems faced by consumers due to nutritional labeling can also be a separate stream of study as it has a good scope. Thus, there is a lot of scope present for the future researchers.

## 13. Conceptual Model and Theoretical Framework

Nutrition information on the food labels is an important source that communicates nutritional information to its users, which is typically underutilized, the reasons for this are several ones of which is, lack of knowledge. Ariyawardana (2003) had drawn on cognitive science literature as to expertise could support the use of nutritional labels, mainly they assume that nutrient label use relies on the interrelated processes centered on comprehension which are attention, perception and memory, and decision making. Keeping this research work as a base paper in this research we have framed our conceptual model for the present research. Nutritional Labeling can be characterized as a depiction used to inform the consumers about the dietary properties of nourishment, which additionally help the consumers in obtaining nutritious sustenance and devouring healthfully adjusted meals. Information concerning the amount of nutrition in food products helps the consumers in making healthy food choices. According to Dennick (2011), the higher social level may prompt them to be more enthusiastic for adhering to a proper diet and better nourishment knowledge, which thus may influence utilization of nutritional information (Streiner, 2003), (Lisa and Miller, 2015). People with more healthy eating habits utilize labels regularly than those that do not. Consumers could get access to nutritional information of each product. Labeling of data would increase the consumption of the healthier product by 17.95% (Brinberg, 1992). This also reduces the use of calorie by 3.59%. This helps in determining consumer's choice behaviors and product perceptions (KlausG and Grunert, 2010), When individuals come across negative feelings such as disappointment, separation, uneasiness, and isolation, they attempt to eat more. (Satia, 2005), So the type of food consumed should be considered when individuals experience negative feelings. Even when nutritional labels provide required information to people, there is no adequate proof to infer that these details direct the connection between negative mood and eating behavior. One reason being, overeating is related to emotion, and nutritional knowledge relates to cognition. So this will affect only when individuals use cognitive thinking process to make beneficial eating choices. Nonetheless, when feelings trigger eating, nutritional labeling may not be persuasive. Brand loyalty is a significant reason for not looking into food labels, which are concluded by the researcher (Cecchini, 2015). Around 47% of respondents don't examine food labels because of their brand loyalty. Psychological factors are thought to reflect the person's inner qualities and usually analyzed factors such as learning, convictions, and dispositions. Aspects such as social contract, intentions and good diet habits ought to lessen hindrances to adhering to a healthy diet. Nutritional Label can influence the shoppers' acquiring conduct fundamentally enable shoppers to change utilization far from 'undesirable' items in those nourishment classifications toward 'healthy' items all the more effective. It likewise enables shoppers to make an educated judgment of a product. In this way, Nutritional labeling helps in providing direction to a superior eating routine and a more beneficial life



13.1. Inference

Ganley (1989), Many researchers have many assumptions, they incorporate many different variables to be associated with their research work, and hence it is important to conclude by taking into consideration all the variables in a single grid called the “One-Reason Decision Making” heuristic approach. Based on this theme, the thematic approach has been used to finalize the variable matrix. The variable matrix has been used to frame the conceptual model.



The above relationship is between Emotional satisfaction (M1) and final purchase (Y). Satisfaction in a marketing sense is the benefit, which has been derived by the consumer out of a product or a service without really paying a higher price. If the consumer is satisfied with the benefits of the product, he attains emotional satisfaction. This need for satisfaction will lead to a final purchase. On the other hand, a product or a service, which a consumer had been looking for, is available in the market that itself satisfies him emotionally before even consuming it. This might be because of the availability of the product, promotional strategies, pricing etc. Hochstadt (2016) conducted a study to find the satisfaction in the pre-purchase stage, and the author states it clear that satisfaction is not an element, which has to be derived after the purchase. The author supports with a strong statement that, there are various stages of purchase decision-making process and each stage needs satisfaction to proceed with the next stage. Thus, this nutrition labeling can also contribute to pre-purchase satisfaction in the retail setup and at this moment, (M1) Emotional satisfaction leads to (Y) final purchase.

H0	There is no significance relationship between Emotional Satisfaction and Final purchase.
H1	There is significance relationship between Emotional Satisfaction and Final purchase.

Correlations			
		Emotional Satisfaction	Final Purchase
Emotional Satisfaction	Pearson Correlation	1	.403**
	Sig. (2-tailed)		.000
	N	225	225
Final Purchase	Pearson Correlation	.403**	1
	Sig. (2-tailed)	.000	
	N	225	225

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The above table shows that there is a correlation of 0.40 between emotional satisfaction and final purchase, which means there is no significant correlation that is the relation is weak between the emotional satisfaction and final purchase of the consumer. The Significance value is less than 0.05 and hence we reject the null hypothesis which is contradicting to the previous studies which states that there is a relationship between the two.



The above relationship is between Emotional satisfaction (M1) and Loyalty (M3). Repeated purchase doesn't amount to true loyalty despite faithfulness. In this circumstance, true loyalty comprises of comporment, which leads to commitment towards products says (Bandara, 2016), (Talanquer, 2014). The study suggested that buyer conduct is affected by emotions. Human instinct includes both positive feelings like happiness or joy and negative feelings such as sorrow or grief. This has a consequence on purchase behavior. Positive feelings for a product tend to connect to his/her choices to stay or proceed. On the other hand, Negative feelings tend to interface inverse choices, discontinue or grumbling behavior. Emotions influence decision making, positive emotions lead to a share of positive experience, which sequentially leads to the construction of loyalty.

H0	There is no significance relationship between Emotional Satisfaction and Loyalty.
H2	There is significance relationship between Emotional Satisfaction and Loyalty.

Correlations			
		Emotional Satisfaction	Loyalty
Emotional Satisfaction	Pearson Correlation	1	.938**
	Sig. (2-tailed)		.000
	N	225	225
Loyalty	Pearson Correlation	.938**	1
	Sig. (2-tailed)	.000	
	N	225	225

\*\* . Correlation is significant at the 0.01 level (2-tailed).

It was observed that the correlation between emotional satisfaction and loyalty was 0.93, which implies that there is a strong relationship between emotional satisfaction and loyalty. Since the significance value is less than 0.05 and therefore we reject null hypothesis.



The above relationship is between Loyalty (M3) and Final Purchase(Y).Brand loyalty reflects values, vision, mission, beliefs, convictions etc. A Brand is identified by a logo, selling strategy, quality, tagline, and name; plan etc. Loyalty is an emotional attachment to the brand. Consumers feel a familiarity in the products that they buy and thus remain with the same brand as they found that particular brand to be superior over every other brand. One of the components that decide the success of the organizations is the trust which people exhibit towards these organizations.

H0	There is no significance relationship between Loyalty and Final purchase.
H3	There is significance relationship between Loyalty and Final purchase.

Correlations			
		Loyalty	Final Purchase
Loyalty	Pearson Correlation	1	.418**
	Sig. (2-tailed)		.000
	N	225	225
Final Purchase	Pearson Correlation	.418**	1
	Sig. (2-tailed)	.000	
	N	225	225

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation between Loyalty and final purchase is 0.418, which displays a weak correlation that is loyalty will not influence the purchase decision of consumers significantly. But the significance value is less than 0.05 and hence we reject our null hypothesis stating that there is a significance relationship between loyalty and purchase decision.



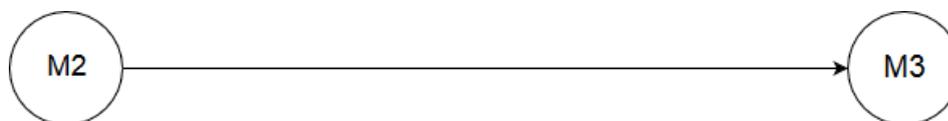
The above relationship is between Physiological impacts (M2) and final purchase(Y). The process of marketing begins with the identification of consumer needs and ends with their satisfaction. Therefore Knowing about consumers is very essential for organizations (Huang, 2014). The study conducted by Bloemer (1995), states that the Physiological factors influence the major buying decision of consumers which comprises of individual’s perceptions, motivation, attitudes and beliefs. Without proper knowledge about the product, no consumer wishes to buy a product, and a proper knowledge with regard to the usefulness and benefits that an individual gets from the consumption of a product induces him to purchase, as it acts as a motivational factor for the purchase. Knowledge about the product and the motivation to consume it are personal variables, which would vary from product to product, they play in the minds of consumers and have a Physiological impact on their buying behaviors

H0	There is no significance relationship between Psychological impact and Final purchase.
H4	There is a significance relationship between Psychological impact and Final purchase.

Correlations			
		Final Purchase	Physiological Impact
Final Purchase	Pearson Correlation	1	.505**
	Sig. (2-tailed)		.000
	N	225	225
Physiological Impact	Pearson Correlation	.505**	1
	Sig. (2-tailed)	.000	
	N	225	225

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation between final purchase and psychological impact is 0.5 which depicts that there is a moderate relationship between the two and since the significance level was less than 0.05 and so we reject the null hypothesis and postulates that there is a relationship between psychological impact and final purchase.



The above relationship is between Physiological impacts (M2) and loyalty (M3) of the consumer towards a product. As explained earlier, knowledge related to a product which portrays a better usefulness or utility by consuming that product would become a motivational factor and have a Physiological impact on the consumer and induce a purchase, before a consumer could purchase it he would well become loyal to that particular product that actually makes the product to be consumed at more than one occasion. Hence, it is clear that the private variable like knowledge in favor of the product persuade the consumer to become loyal to the product and eventually make him consume the product repeated number of times.

H0	There is no significance relationship between Physiological impact and Loyalty.
H5	There is significance relationship between Physiological impact and Loyalty.

Correlations			
		Physiological Impact	Loyalty
Physiological Impact	Pearson Correlation	1	.268**
	Sig. (2-tailed)		.000
	N	225	225
Loyalty	Pearson Correlation	.268**	1
	Sig. (2-tailed)	.000	
	N	225	225

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation between loyalty and psychological impact is 0.26 which displays that there is a weak relationship between the two, the significance value is less than 0.05 and therefore the null hypothesis being rejected and the alternate hypothesis which states that there is a significance relationship between psychological impact and loyalty.



The above relationship is between Personal Variables (X) and Physiological Impact (M2). Consumer’s product knowledge is an important aspect of consumer behavior which has an impact on consumer buying decision and also in eating habits. Product Knowledge depends on the consumers understanding, awareness and confidence about the product; they also include memories related to the product. Product knowledge also affects the consumer’s information search procedure, attitude about the brand and information search quality. Hence, consumer’s level of product knowledge would influence his purchase decision, eating habits and indirectly affect consumer-buying intention.

H0	There is no significance relationship between Personal Variable and Physiological impact.
H6	There is significance relationship between Personal Variable and Physiological Impact.

Correlations			
		Personal Variable selection	Physiological Impact
Personal Variable selection	Pearson Correlation	1	.159*
	Sig. (2-tailed)		.017
	N	225	225
Physiological Impact	Pearson Correlation	.159*	1
	Sig. (2-tailed)	.017	
	N	225	225

\*. Correlation is significant at the 0.05 level (2-tailed).

The correlation between personal variable and psychological impact is 0.152 which shows a weak correlation, but, since the significance value is less than 0.05 the null hypothesis is rejected and the alternate hypothesis which states that there is a significant relationship between personal variable and psychological impact.



The above relationship is between Personal Variable (X) and Emotional Satisfaction (M1).Producers should understand the consumer’s preference, choices, habits and satisfaction level with the product offered. There is a positive relationship between the consumer knowledge and consumer satisfaction. When the consumer is well aware of the product features and benefits, he will be able to make right choice whether to purchase the product or not. When the consumers make right decision he will be satisfied on the other hand if the decision is wrong, he will be disappointed. Once the consumer is emotionally satisfied with the product offered, it creates loyalty towards the brand. Hence it is important for the business to provide sufficient knowledge to consumers and understand their emotions.

H0	There is no significant relationship between personal variable and emotional satisfaction
H8	There is significant relationship between personal variable and emotional satisfaction.

Correlations			
		Personal Variable Selection	Emotional Satisfaction
Personal Variable selection	Pearson Correlation	1	.159*
	Sig. (2-tailed)		.016
	N	225	225
Emotional Satisfaction	Pearson Correlation	.159*	1
	Sig. (2-tailed)	.016	
	N	225	225

\*. Correlation is significant at the 0.05 level (2-tailed).

The correlation between emotional satisfaction and personal variable is 0.159 which displays weak correlation. The significance level is 0.016 which is less than 0.05, we reject the null hypothesis and say that there is a significant relationship between the two variables supporting the previous literature.



The above relationship is between Personal Variable (X) and Loyalty (M3). Consumers when choosing and buying any product pay more attention to the quality and safety of the product. In recent days the consumer market is flooded with various types of products the safety of which and quality is questionable especially while purchasing the food products the consumer pays more importance to the diet and health. However, mostly the consumer's perception on safety and quality is based upon the public information and from the peers; generally, consumers do not have a proper perception of the food products, markets, and their consumer rights in most of the cases. Food producers and manufacturers explore and examine the consumer needs to increase consumer satisfaction with their product. The conscious decision to repeat the purchase of the same product makes the consumer loyal to the particular brand it also refers to the Physiological commitment of that customer towards the brand. Brand equity factors such as Brand name, Brand trust, and Brand social responsibility, perceived quality, word of mouth, and brand knowledge impacts the customers purchasing decision (eating habit) and influences the loyalty of the consumer to the product.

H0	There is no significant relationship between personal variable and Loyalty.
H8	There is significant relationship between personal variable and Loyalty.

Correlations			
		Loyalty	Personal Variable selection
Loyalty	Pearson Correlation	1	.870**
	Sig. (2-tailed)		.000
	N	225	225
Personal Variable selection	Pearson Correlation	.870**	1
	Sig. (2-tailed)	.000	
	N	225	225

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation between loyalty and personal variable is 0.870 which shows a strong relation between loyalty and personal variable. The significance value between loyalty and personal variable is less than 0.05 and hence we reject the null hypothesis and accept the alternate hypothesis which also states that there is a significant relationship between the two.



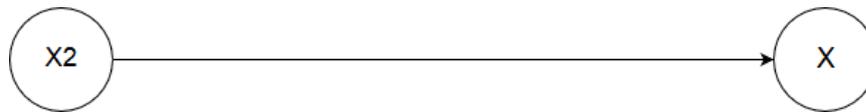
The above relationship is between Knowledge (X1) and Personal Variable (X). Eating habits refer to why and how people eat, which food they eat and the pattern in which they eat. And the ways people obtain, store, use and discard food. To develop such a routine people must have sufficient knowledge about the eatables and since knowledge about the products varies from time to time; the eating habits tend to change over time. A positive attitude towards a particular product influences the customer to consume more of it, whereas a negative knowledge would restrict him from consuming that product. Hence, in both the cases knowledge has its impact on a person eating habits. Knowledge is one of the most important factors, which influence the eating habits. People looking to stay fit and healthy make conscious efforts to obtain knowledge about the product and avoid high-calorie foods.

H0	There is no significant relationship between knowledge and personal variable.
H9	There is significant relationship between Knowledge and personal variable.

Correlations			
		Personal Variable selection	Knowledge
Personal Variable selection	Pearson Correlation	1	.373**
	Sig. (2-tailed)		.000
	N	225	225
Knowledge	Pearson Correlation	.373**	1
	Sig. (2-tailed)	.000	
	N	225	225

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation between personal variable and knowledge is 0.37 which shows weak correlation between the two variables depicting that there is no significant relation between personal variable and knowledge together on the purchase behavior of the consumer, the significance level is less than 0.05 which indicating that the null hypothesis can be rejected and accept the alternate hypothesis stating that there is a significant relationship between the two above stated variables.



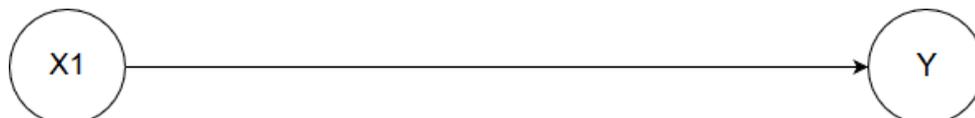
The above relationship is between Eating Motivation (X2) and Personal Variable (X). Health is a major aspect and is valued by everybody, consumer’s knowledge about the food products links between diet and health results in changes in eating patterns. Product knowledge helps to provide consumers, at the point of buying, with information about the nutrition content and other essential information about the food products, to enable consumers to choose healthy and appropriate food products. Product knowledge helps the consumers in different ways: it supports healthy eating and buying with consumer choices, and it lessens information search costs for consumers, which also make it more likely creates interests in food, especially interests in good taste, eating habits and indulgence.

H0	There is no significant relationship between Eating Motivation and personal variable.
H10	There is significant relationship between Eating Motivation and personal variable.

Correlations			
		Eating Motivation	Personal Variable selection
Eating Motivation	Pearson Correlation	1	.215**
	Sig. (2-tailed)		.001
	N	225	225
Personal Variable selection	Pearson Correlation	.215**	1
	Sig. (2-tailed)	.001	
	N	225	225

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The Correlation between eating motivation and personal variable selection was 0.21 which depicts a weak correlation between the two and the significance value is 0.01 which is less than 0.05 and therefore null hypothesis is rejected and alternate hypothesis is accepted which states that there is a significant relationship between the two variables stated.



The above relationship is between Knowledge (X1) and Final Purchase (Y). Knowledge regarding products to consumers is very essential to make a buying decision and is subsequently a vital factor for marketers to look into. However, while a lot of information is presented about the product, this information should have importance to consumers to affect their buying conduct. Consumers must acquire knowledge about the product characteristics and other related attributes. As per [Bagozzi \(1999\)](#) buyers knowledge is imperative in decision process which begins with the identification of need, searching information, assessing opinions, buying decision and then finally after purchase stage.

H0	There is no significant relationship between knowledge and Final Purchase.
H11	There is significant relationship between Knowledge and Final Purchase.

Correlations			
		Knowledge	Final Purchase
Knowledge	Pearson Correlation	1	.101
	Sig. (2-tailed)		.130
	N	225	225
Final Purchase	Pearson Correlation	.101	1
	Sig. (2-tailed)	.130	
	N	225	225

The correlation between knowledge and final purchase was 0.1 which means that there was no significant relationship between knowledge factor and the final purchase. The significance value is 0.130 which is greater than

0.05 hence we accept the null hypothesis which states that there is no significant relationship between knowledge and final purchase and reject the alternate hypothesis.



The above relationship is between Eating Motivation (X2) and Final Purchase (Y). Although the price of the product influences the buying behavior of the consumer, it is not the only factor. Consumers also take into consideration the time, effort and the nutritional information of the product which he/she intended to buy. Food-related diseases have increased tremendously and are one of the crucial health concerns. Eating habits of consumers vary from person to person. Excess weight gain is expected to occur during the transition period from adolescence to adulthood due to poor dietary habits and unhealthy foods. Most of the people are tempted to consume junk foods and foods with high sugar content. It is a matter of consideration that people’s eating habit decides their food quality, but knowledge of the contents of the product would make consumer aware and make them consume more of it (Khan, 2007). Information and responsiveness are very essential for consumer’s decision to buy goods. Knowledge about the product induces a right purchase and gains the benefits out of it, which would result in a final purchase.

H0	There is no significant relationship between Eating Motivation and Final Purchase.
H12	There is significant relationship between Eating Motivation and Final Purchase.

Correlations			
		Final Purchase	Eating Motivation
Final Purchase	Pearson Correlation	1	.111
	Sig. (2-tailed)		.097
	N	225	225
Eating Motivation	Pearson Correlation	.111	1
	Sig. (2-tailed)	.097	
	N	225	225

The correlation between eating motivation and final purchase of the consumers is 0.11 which shows weak correlation between the two variables, also the significance value is greater than 0.05 and there we accept the null hypothesis and the alternate hypothesis, which states that there no relationship between final purchase and eating motivation.



Knowledge and motivation to eat goes in hands on hand because if a person has good knowledge and information on a food product then the consumer might consume without any hesitation. The basic information about the product is needed to consume it without any hesitation. This knowledge is spread through word of mouth or by the internal information, which the consumer possesses. Thus, knowledge about nutritional labeling is through internal and external environment.

H0	There is no significant relationship between Knowledge and eating motivation.
H13	There is significant relationship between Knowledge and eating motivation.

Correlations			
		Knowledge	Eating Motivation
Knowledge	Pearson Correlation	1	.315**
	Sig. (2-tailed)		.000
	N	225	225
Eating Motivation	Pearson Correlation	.315**	1
	Sig. (2-tailed)	.000	
	N	225	225

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation between knowledge and eating motivation is 0.31, which indicates that there is a weak correlation that is there is no significant correlation between knowledge and eating motivation. The significance

value is 0.05 and hence the null hypothesis is rejected and alternate hypothesis which states that there is a significant relationship between eating motivation and knowledge is accepted.

### 13.2. Hierarchical Multiple Regression Model With Mediation Effect (Analysed Results)

It is not difficult to find an example of mediation and moderation analysis in the empirical literature. Many methodologies and tutorials are also present which explains in detail how mediation works and its related importance in research model. The systematic fashion in the research community has been exploring this effect for the past decade, and many research papers are available as base papers. At this point, the researchers dealing with nutritious labeling have introduced multi-dimensional mediation effect, which will help to validate and compare the results.

### 13.3. Demographic Profile Of The Respondents

The researchers found that (47%) of the respondents are male genders and remaining (53%) of the respondents are female gender. From the analyzed results, it is clear that majority of the respondents (81.3%) of the respondents fall in between the age group of 31-46 years who mostly refer nutritional labeling and associated information. It is observed that about (57.5%) of the respondents who prefer the products based on nutritional labeling are working class, (31.3%) are youngsters whose age ranges between 18 to 26 and remaining (1.3%) are senior citizens. The marital status wise distribution brings it clear from the analysis that (45%) of the respondents is married and others belong to the un-married category. The results pertaining to the size of the family shows clearly that (58.8%) of the respondents preferring nutritional labeling belong to a family filled with four members. The analysis pertaining to type of family indicates that (96.3%) of the respondents belong to nuclear family and remaining (3.2%) belong to joint family. The results with regard to locality of residence, clearly reveals that (80%) of the respondents belong to urban area and a very few belong to the moving population category.

## 14. Suggestions

The marketers have to be cautious that the consumer community is now well educated and aware of knowing the details of the information being printed along with the products or which is being described along with the service and hence they should provide only truthful information. It is the prime duty of the marketer to make sure that the customer is engaged with the marketer even in the future without switching to other competitor brands and hence the repurchase intention has to be created by the marketers by explaining about the product details and the nutritional values. The marketer is in the final state of the trade before the consumer; it is the duty of the manufacturer (producer of the products) to decide on the nutritional labeling. The marketers also play the role of collecting feedback from the consumers and sending the same to the producer to rectify the mistakes. Consumers are mostly aware of the consumer protection act and other acts passed by the government, which actively works for the benefit of the consumer community. Thus, the manufacturers and marketers and other intermediaries should be aware of the consequences of transferring a wrong product with false information to the consumers because human life is very precious.

## 15. Limitations of the Study

The study has taken into consideration the expensive households in the city of Bangalore, Karnataka a South state in India. This city is considered to be the IT hub of South India and hence the researchers have chosen the same. This may also be considered to a geographical location selection as per the comfort zone of the researchers. The scope of the study is confined to Bangalore which is one of the major study limitations. Argument mapping being one of the most power tools in qualitative methodology has been employed in this research work. To collect spontaneous data the researchers have chosen this tool which has its own pros and cons. Thus the usage of qualitative tool is also a limitation of the study. The conceptual model is framed after a detailed review of literature and the variables are handpicked for the conceptual model. The selection of the variables might differ based on researcher's assumptions and expectations and hence, this variable selection process is also a study limitation. The researchers have used a simple correlation to find the relationship between variable, the other researchers can use a Structural Equation Model in the future. Hence the adoption of the statistical tools is based on the researchers comfort zone. Usage of the mixed research approach and triangulation approach to arrive at a common point for the qualitative and quantitative techniques has been used in this research considering the importance of Social Science field which might be self perception. The future researchers can work on these limitations mentioned in this research work for a better research on Nutritional Labelling in the golden tomorrow.

## 16. Recommendations

Food labels are very important tools that promote balanced diet and public health and wellbeing says (Callwood, 2013). Consumers are likely to concentrate on products, which highlights on diet and they do not take obesity control but the post effect of consuming such products into consideration. Consumers should be smart to analyze the post consumption effect in the longer run. As the quote says, not "all those glitters are gold" is the exact match for nutritional labeling. It is the responsibility of the consumer to get involved in detailed pre analysis before getting involved in the purchase decision. Spending quality time for purchase is very important as it helps the consumers to choose the best brand with more benefits, which will contribute for a healthy life. These standards have to be incorporated by India based on a very strict order by the government so that no consumers are cheated. Moreover, the producers have to take efforts to build a healthy nation.

The brand's image and value is increased because of Nutritional Labelling. The consumer's purchasing decision is largely influenced by labels especially those who are concerned about their health. Food companies mainly provide information about the product since it is great practice to give transparency and giving right information is just the right thing to do because companies sell their products to consumers to get revenue. So consumers have all the right to get required information. Knowledge is power and labels enable individuals to make better informed choices about the food they eat. With such huge number of food choices and beverages today, people from organic to gluten free foods want to know more about their food. Food labels help companies to provide truthful, accurate and appropriate information on the package. The true and crystal clear details about the product build trust among the consumers. Proper classification of fat, cholesterol and other health affecting details provides caution to the consumers to consume less. Consumer Organisation and Government around the world see labels as a key method to support consumers to make healthy choice. Nutritional Labelling bridges the informational gap between the company and the end consumers. The main motive is to communicate the information as clearly as possible which enables people to understand easily, make balanced and conscious choices. However people who are affected by health issues with nourishment know more about nutritional labels. Further, those who know about labels are more likely to use them and they consider the above stated information as beneficial (Raju, 1995). The main motive behind nutritional labels is to control weight. Attitude related to diet of people is positively correlated with use of food labels. This paper used multiple regression analysis to find out the importance of nutritional labels which is influenced by dietary habits of consumers. Initiating programs on diet and nutritional food labels for young people will be successful in enhancing dietary life. Numerous buyers have revealed that nutrition labels are crucial source of information (Griffith, 2013). Most shoppers are eager to utilize the details if it is given on the label; however consumer's concern for healthiness didn't necessarily depend upon labels (Tumulak, 2015).

## 17. Conclusion

Research helps to understand the consumer attitude towards nutritious labeling. We have found that diet has become a major concentration for majority of the consumers as they have started to give importance to health. Moreover, lifestyle has a major impact on the consumers brand preference by giving importance to nutritious content. Nutritious labeling means the descriptions used in the label about the properties of the product to attract the consumers which will help them to maintain a balanced diet but are the consumers aware of the consequences of consuming the wrong product with false information is always on the debate platform. The increasing issues, in recent times, such as obesity and other health problems amongst the young population across the world, which is further leading to more complex and serious health issues. These health issues having a chain effect, due to the food choices has to be taken as a very serious consideration by the producers and the marketers before the product reaches the final consumers. Since the producers and the marketers do not take these serious issues into concern, many problems have occurred and have paved way for bringing in regulatory bodies that has made nutrition labels on pre-packaged food and other products. Many Non Profit Making Institutions have taken nutritional labeling awareness as a serious cause and have started to spread the awareness to the public. There is a burden of increasing non communicable diseases is the result of low nutrition literacy and the politics that revolves around the weak nutritional labeling regulations in India with respect to food labeling and promotions. Thus, the government has to first take strong initiative to eradicate such wrong practices to keep the society healthy. The voice questioning the authenticity of the product in the past 20 years has still not heard by the Indian Government and that is why there are a lot of problems in the nation pertaining to wrong nutritional labeling information and also the product ingredients. The consumer's voice has to be given importance, because it is the strongest voices for the success of the economy as a whole.

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