

# Socio-Demographic Factor and Selected Buying Behavioral Attributes of Purchasing Convenience Food: Multiple Correspondence Analyses to Explore the Relationship

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## Abstract

The objective of the study is to establish the relationship between socio demographic factors and buying behavior attributes towards convenience food. The present study is cross sectional in nature. Correspondence analysis method has been used to explore the relationship between socio-demographic factor and attribute associated with packaged food buying behavior. The correspondence analysis helps in evaluating the consumer preference of numerous qualitative parameters. The socio-demographic characteristics includes education, occupation, household size, age and income. The study was conducted in Bhubaneswar and the primary data was extracted from 711 respondents. The data is nominal in nature. The respondents are student, service people, businessmen and few housewives. The entire data was collected through Google form. The results of correspondence analysis suggest that there is significant relationship between socio-demographic factor and food preference attributes towards convenience food depicted through correspondence map. The young and less educated people prefer taste n flavor, variants, convenience, affordability, quick preparation and higher shelf life in packaged food item. On the contrary people with high age and in high income bracket prefer healthiness, food safety and strictly observe food labeling while purchasing. Such people prefer home cooked meal.

**Keywords:** Convenience food, Multiple Correspondence analysis, buying behavior, Socio-demographic, Active margin

## 1. Introduction to Convenience food

The convenience food was first coined in the 1950 by Charles Mortimer, president and CEO of General food. It refers to foods that were easy to buy, store, open, prepare and eat (Moss 2013). Some researcher defined the term by the amount of preparation outsourced to food processor (Harrison, 1997), while others focus on different methods of processing (Parks & Capps 1997; Costa et al, 2001). They have categorized the convenience food into four groups with non ready to eat required more effort to cook, restaurant meal being a little more convenience but not as convenient as ready to eat or fast food (Iiya Rahkovsky, Young Jo & Andrea Carlson, 2018). The ready to eat defined as food that can be consumed cold, at room temperature or heated in microwave. RTE food does not include food that required a sharp knife to prepare. This definition can also be combined with Okrent & Kumcu (2016) ready to eat (e.g. canned fruits, yogurt, soda, candy etc) and ready to cook (e.g. frozen meals & instant mix) and ready to serve categories (e.g. beverage, juice). The convenience food are fully prepared or partially prepared food item, where some of the culinary skill get transferred to food processor (Capps, Tedford & Havlicek, 1983). Forbairt (1998) defined them as product undergone into secondary processing including ready to eat, processed meat, pizza pie, savoury product, ice-cream & confectionary product, desserts, soup & other prepared consumer ready products. According to Traub & Odland (1979) convenience food are fully or partially prepared processed food in which a great deal

of work, time, energy & culinary skills transferred from the home kitchen to the processor. The manufacturer & marketers added certain convenience features to the food which have not been added at home by home makers. Paulus (1978) clearly categorized the food into five phase 1) ready to process 2) ready to kitchen process 3) ready to cook food 4) ready to heat 5) ready to eat foods. Some study also segregated convenience foods into five different categories are canned, ambient, frozen, chilled & dry (Newman, Henchion & Mathews, 2001). Convenience food also called as processed food where high level of culinary preparation help to save time & effort compared to less processed product (Makala 2013; Babiez- Zielinska 2011). Convenience food along with genetically modified food, organic food, ethnic food and functional/fortified food belongs to the category denominated as novel food (Dabrowska, Babicz-Zielinska, 2011). They categorized convenience food into three groups

- a) Traditional food- Meals prepared from fresh product that is already prepared (e.g. pre-packaged salad ingredient).
- b) Semi- Convenience food- Prepared from pre processed product (Delight chicken of Reliance brand)
- c) Convenience food – ready to eat, ready to cook and ready to serve and it also include food taken in restaurant, pub and fast food outlet (Soup, noodles, chips & snacks, fruit juice, desserts etc).

Martine de Boer et al (2004) argue that convenience food encapsulate all product undergone into secondary & tertiary processing including

readymade meal, processed meat, pizzas, soups etc. These food products obtained as a result of processed raw material through sophisticated technologies practices. According to KS Premavalli (2000) convenience are a class of foods which impart convenience to the consumer by way of little or no requirement of major processing or cooking before their consumption. It requires minimum handling, mild heating, warming for ready to eat or rehydration in hot and cold water for dehydrated foods. The complexity of convenience food depends upon composition, shape, size and degree of processing. The additional features of convenience food include other features like shelf life, good quality, reduction in weight, availability. The study classified convenience food are classified into two groups

- a) Ready to eat – The Convenience form of processed food under ready to eat. It has generally the shelf life of one year and can be extended to 3-4 months by the adding of antioxidants. The fried products have the shelf life of 1 to 2 days and undergo into microbial spoilage due to the high moisture in the product e.g. chips, wafers, snacks, soups desserts etc
- b) Ready to cook – It is generally in dry form need to mix with water before consumption. These are pre cooked & dehydrated foods which need rehydration later to bring them into cooked forms, ready to be eaten e.g. instant mix, juice etc.

The convenience food not only saves time, energy and effort but also defined by degree of processing. Thus in this study the convenience food are taken in

terms of the degree of processing hence includes ready to eat, ready to cook and ready to serve.

## 2. Socio-Demographic influence on Convenience food

Sociological influences on food choice or eating behavior are important. The notion of social influence on human's food choice behavior suggests such behavior is a collective characteristic of society, the expression of culture and religion, or the influence from family members and peers (M. Nestle et al., 1998; Patricia Pliner & Mann, 2004; Rozin, Fallon, & Mandell, 1984). For example, family play an important role of developing human's eating pattern as it is a basic part of the social environment (Taylor, Evers, & McKenna, 2005). Other peoples eating behavior can influence our dieting preference and food choice (Birch, 1980). Food choice behavior and food consumption may also be influenced by other social attributes such as gender, age, educational level, and income (Ares & Gámbaro, 2007; Verbeke & Lopez, 2005). As a result, researchers have found out how differences in attitudes toward food and purchase intention are related to socio-demographics. One study reveals there are significant differences in attitude towards fruit consumption depending on the participant's gender and age. This study also concluded that age and gender also have significant effects on the consumption of sweets, chocolate, fruit, and chips (Dennison & Shepherd, 1995). Another study investigated customers' attitudes toward organic food and revealed that educational levels affect buying behavior (Maria, Anne, Ulla- Kaisa Koivisto, Lars, & Per-

Olow, 2001). However, Grogan, Bell, and Conner (1997) claimed that there was not a significant difference in sweet snacks consumption behavior between genders. Further, Meulenberg and Viaene (1998) corroborated that there was not a strong correlation between education and food consumption behavior. Some studies suggested that the important attributes which trigger the demand of convenience food are a) Individualistic lifestyle b) increase in disposable income led to higher expenditure on time saving and effort less food products c) women active participation in labor market (Senaver, Asp & Kinsey 1998; Newman, Henchion & Mathews 2001). The socio demographic attributes plays very vital role in food choices. The age, gender, income and occupation impact the actual buying behavior. The proliferation of dual income family spurred the demand of convenience food apart from taste, lifestyle, modernization etc (Ahuja 2011). The gender plays very important role in food choices. The male and female have different perception, motive, cognitive ability and consideration which make them totally different (Hernandez et al 2011). Previously shopping was generally done by female consumers which have been changed now. Currently male are also actively engaged in food purchasing (Otnes and Mc grath 2001; Buttle 1992). The behavior of the people changes with age. Young people tend to consume more convenience food than older people. For young they seek fun, pleasure and taste in food item but for mature people seek health benefits in food item. In the previous study it has been found that female consumers with age 30-45 having children and high income are willing to spend on quality

food item (Chambers et al 2008, Dettmann and Dimitri 2009). Young people splurge on more lifestyle food item than aged people. In some studies it was found that aged people prefer less energy dense food like sweets and fast food and consume more value added food product which is made up of like vegetables and fruits etc (Drewnowski and Shultz 2001). An aging population in Great Britain and decrease in average household size triggers the demand of smaller packaged food items (IGD, 2001). The people who live alone often require such packaged foods that require very minimal clearing time hence time is very imperative attributes for convenience food definition (IGD 1998). The impact of psycho-social, sociodemographic, lifestyle, nutritional knowledge, employment status, marital status and indeed the stages of life cycle are some of the plausible attributes which impact the growth of convenience food (Veenma et al 1995). Occupation of male and female plays major role in buying food item. The choice behavior of the people is based on occupation. Housewife, service holder, businessmen and people engaged in different profession have different opinion towards food item. The surging demand of convenience food is mainly due to the women actively participating in labor market (Ahuja 2011). The demand of packaged food item growing at the break neck speed due to changes in socio- economic patterns, increase in urbanization, buying power & awareness about health food , changes in meal pattern and desire to taste new food (Manohar 2005). The active participation of female workers in Great Britain spur the demand of packaged food item (Senauer et al 1991,

Somogyi, 1990) and long working hours (Geest 2001). The study found a very weak correlation between the meal preparers working status and convenience food consumption and this was due to that convenience food not offering enough convenience (Candel 2001). The demand of convenience food is increasing due to the increment of salary, education and also due to globalization & worldwide trade. Consumers with higher income buy more convenience food than less income consumer (Louriero et al 2001; Govindaswamy and Itlia 1999). Educated consumer purchases more convenience food than less educated consumer (Dettmann and Dimitri 2009). Marital status also play critical role in purchasing food item. In previous study it is found that student spend 45% of their money in buying convenience food (Sen and Antara 2018). The study revealed that the burgeoning of nuclear family, impact of media, increase in foreign destination, fusion of ethnic foods with the local food habit and desire to get quality food led to the demand of convenience food (Manohar 2005). The other attributes which contributes to the demand of convenience food is the proliferation of aspiration middle class family which is rising consumption community of the country. They are newly educated and expose to global lifestyle (Ramaswamy 2003). Extensive surveys were conducted to establish the relationship between family characteristics and expenditure of convenience food. The outcome of research state that the age, education of family head, number of children under age 6, wife active participation in labor market and area of living are some of the salient attributes determined the demand of

convenience food (Jae et al 2000). The food pattern of unmarried, segregated, widowed and divorced is varied with respect to those male and female who live with their family. The single living male and female prefer ready to eat food because of their own personal reason or they don't have zeal to cook food or might be they are saddled with huge work pressure in life and so forth (Muktawat and Varma 2013). The social impact has great influence on human food choice behavior and behavior is a collective characteristic of society, the expression of culture & religion and keen influence from family member peers (M. Nestle et al 1998; Patricia Pliner & Mann, 2004). One study revealed that age & gender played occupation role on the consumption of sweets, chocolates, fruits & chips (Dennison & Sphepherd 1995). The consumer attitude towards organic food product is very much impacted by the education level of the people (Maria, Anne, Ulla-Kaisa Koivisto 1999). A study examined the importance of the influence of demographic attributes on sensation seeking & food neophobia. The age and gender and nationality have significant impact on sensation seeking on food neophobia (Lorch & Donohew, 2002). The disquisition of social influence on food choice behavior above highlights the potential interaction between social attributes and other variables in this study like gender; age, income, educational level, and nationality are selected to examine their influence on food choice. The present aimed to identify the relationship between socio- demographic variable and attributes influencing the buying of convenience food

### 3. Buying behavior of Convenience food

According to Blackwell, Miniard & Angel (2019) elucidated that buying behavior of consumer is very intricate and often changes with the time. The consumer buying behavior as an act involved when an individual extract information, uses & disposes economic goods, services that comes before buying behavior and . Consumer behavior is the holistic process which entails stimuli, action undertaken by consumer in buying & using a product or a service including those who connect them (Goodhope, 2013, Dullaert et al 2016).. The consumer choice behavior is the conscious & sub conscious state in the mind of consumer while buying any product (Fitzsimons and Shiv, 2001). Bora & Kulshrestha (2015) find out that nutritional valuation is a pertinent consideration for selection of foods, as it is implying that rich fiber products are good for nutritional value and to be a good source of minerals. Horst, Brunner, & Siegrist (2010) conclude that cooking skills was an important predictor for healthy eating as well as buying for ready-meal products, as it possible cooking skill will gradually waning in future. Moreover, Jana et al. (2015) research found that sometimes previous buying experience of a customer influence the brand value. One studies categorically stated the role of retailers in influencing the consumer behavior. The retailers can trigger the impulse buying in consumer. Retailer assisted the buyers to find the right products by using focused merchandising, store lay out, design and othervisualeffectonmerchandising (Baker, Levy and Grewal 1992). To

understand consumer buying behavior will help the manufactures to gain competitive advantages over their rival firms and they can apply this information to bring some innovation in their products to satisfy consumer need and want (Kotler & Keller 2016). Consumer all over the world are more educated, sophisticated and besides price they consider other attributes such as service, location, experience, ambience, aesthetic etc when making decision to purchase from a particular store ( Diallo 2015; Hinson , Anning-Dorson & Kastner, 2012, Pandey et al 2015). The most vital attributes which enhances the demand of convenience food is time and proximity (Heider & Modeller, Zairis & Evangelis 2014), quality of product, shopping hours, bulk purchasing benefit ( Han, ye, fu & chen 2014) and an ample opportunity to interact & socialize with people (Pandey et al 2015). Hence focusing on consumer behavior is very onerous and onus for company to perform in competitive market (Furajii, Latuszynska 2012). One study refers that consumer buying behavior are rational, passionate & physical activities undertaken by consumer while making a decision to acquire, use & dispose products and services that meet their need needs and wants ( Priest, Carter & Stat 2013). Some studies also defined consumer behavior as the extensive search for information, choosing a product and post experience (de leeuw &Dullaert , 2016). The consumer buying behavior hover around three elements user, payer & purchase (Furajii et al 2012). In numerous marketing literature there are four major dimension associated with consumer behavior i.e. psychological, economic, social and cultural. The economic attributes

include household income, price & quality and psychological attributes include attitude, perception, image and previous experience and socio-cultural includes education, social class (Diallo et al 2013). The study examined that store Attributes, price and brand image influence consumer intention to purchase and in some cases the store environment spur impulse buying behavior among consumer (Ergil, & Wu, Yeh & Hasio 2011). The study also argued that price & store image impact consumer attitude and buying behavior towards store brand (Diallo 2015). In food industry a strong and significant correlation exist between economic attributes & consumer buying behavior of food products (Shashikiran & Madhavaiah 2015). The social aspect plays major role in buying behavior of food products. This attributes includes reference group, family size & composition, social value of the product, friends or social groups and its leader (Joshi & Rehman 2015). The strong affection of people towards each other and acknowledge of its existence among them impacts consumer buying behavior (Burnaz 2014). Some study emphasized that social team leader's impact the buying behavior of their group members towards new food products (Kwon & Song 2015). While in convenience food industry social attributes leaves indelible impact on the consumer (Shashikiran 2015). Earlier consumer preferred fresh and non convenience food over convenience food & packaged food, however the drastic changes in the consumption pattern of middle and high income groups open ample opportunity for convenience food segment in country (Ling et al 2004, Chengappa et al 2005, Deninger & Sur, 2007). Over the last

few year consumer on both developed and developing nation broached the importance of food safety issues which keenly impacts the consumer buying behavior towards food products (Umali Deiningner and Sur 2007). Consumer buying behavior for food is very much influenced by good taste, convenience and health enhancing properties of food and also due to fast mushrooming of food retail supermarket which is the most preferred destination of consumer while buying packaged food item (Narhinen et al 1999; Hansen, 2005; Jones et al 2006; Bruhn, 2008; Hudson 2012). Due to rapid proliferation of food borne disease and increasing problem of cardiac attack, diabetes & obesity the consumer are becoming more health conscious about their food intake. Hence increasing health consciousness & changes in lifestyle among people coupled with awareness about the functional benefit linked with wellness food products beget significant changes in the consumer behavior towards health food product consumption (Quah & Tan 2009; Gofton et al 2013, Goetzke & Spiller 2014). The other important attributes which influence the consumer buying behavior of packaged food products are rapid urbanization, rise in disposable income, and globalization of food market, changes in family structure and changes in lifestyle (Yun & Pysarchik 2010). In today's scenario consumer prefer health & wellness food product because it has psychological benefit which bolster health, prevent a disease, or ameliorate physical or mental performance via an added functional ingredient, processing modification or biotechnology (Solan, 2000; Divine and Lepisto, 2005; Green, 2006). Perceived health benefits are vital attributes in consumer mind while

buying convenience food (Urala and Lahteenmaki 2007). Consumer attitude and preference towards healthy convenience food have strong nexus to demographic variable such as age and gender (Tuorila et al 1998; Roininan et al 2001). In many studies it has been expatiated that women comply with strict dietary guidelines compared to man while buying convenience food (Bogue et al 2005). The older consumer groups are very diet conscious and keenly scout for healthy convenience food compared to younger adults who are more oriented towards unhealthy food items (Wansink et al 2003). For consumer buying behavior the marketers should understand the nutritional needs and preferences of different consumer groups and tailoring products to meet these needs would increase products concept effectiveness & lead to increase acceptability and probability success of the final products (Grunert & Valli, 2001, 2010). In food products people don't show credibility of health claim which are major barriers to buying behavior (Grey et al 2003). Consumer purchase food products until unless they deliver the health benefit claimed (Siegrist et al 2008). A study unveiled that Finnish and German consumer intend to buy health food products as they exhibit strong preference towards health claim on the product claim (Saba et al 2010). The pertinent attributes of convenience food considered for this study after going through the literature review based on the consumer buying behavior towards convenience food are, affordable price, convenience, taste and flavor, variant, brand image, product labeling, offers & promotion, advertisement, quick preparation, shelf life, healthiness and food safety.

## **4. Material and Method**

### **4.1. Research Approach**

The present study is cross sectional in nature and it used the multivariate technique i.e. correspondence analysis to explain the relationship between socio demographic attributes and salient attributes responsible for the buying behavior of convenience food.

### **4.2. Sampling method and size of the study**

The purposive sampling method is used because of the unavailability of sample frame. The total sample size is 711 and all the information were gathered from Bhubaneswar city. The majority of sample unit comprised of adult participant between the ages of 25 to 40 years. Most of the respondents are graduated and they are belonged to student category.

### **4.3. Data collection**

The data is primary in nature. The entire survey was done through online Google forms and the survey started on March 2020 and ended on June 2020. Generally the questionnaire took ten minutes to complete. During data cleaning process there were certain missing data or improper responses were omitted which resulted in response to 711 usable questionnaire. The survey introduced the participant to a definition of convenience food based on Martin De Boer (2004), stating that this term implies to food product obtained through sophisticated technological advances and can be quickly prepared alone or in the combination with other processed component of safe meals. A respondent not acquainted with convenience food term were omitted. The overall

structure of the survey instrument was based on nominal responses which are categorical in nature.

#### 4.4. Data analysis

Data is analyzed through SPSS 20 software package for windows. The

correspondence analysis technique was used to examine the relationship between socio demographic variable and salient attributes responsible for the buying of convenience food.

#### 4.5. Socio demographic profile of the respondent (N= 711)

**Table 1**

Socio demographic data	Type	Frequency	Percentage
Gender	Male	465	65.4
	Female	246	34.6
Marital status	Married	290	40.8
	Unmarried	421	59.2
Types of Family	Joint	273	38.4
	Nuclear	438	61.6
Household members	Up to 3	148	20.8
	3-5 members	376	52.9
	More than 5	187	26.3
Age	Up to 30 years	441	62.0
	30 – 40 years	192	27.0
	More than 40 years	78	11.0
Income	Up to 5 lakhs	442	62.2
	5 to 10 lakhs	195	27.4
	More than 10 lakhs	78	10.4
Education	High school	7	1.0
	Graduate	192	27.0
	Post graduate	476	66.9
	Ph.D	36	5.1

Occupation	Services	361	50.8
	Housewives	40	5.6
	Business	27	3.8
	Students	252	35.4
	Others	31	4.4
Purchase frequency	Daily	129	18.1
	Weekly	199	28.0
	Twice in a week	104	14.6
	Monthly	94	13.2
	Twice in a month	140	19.7
	More than twice in a month	45	6.3
Preferred Outlet	Organized	166	23.3
	Un organized	46	6.5
	Both	499	70.2
Monthly expenditure on convenience food	Up to Rs 2000	342	48.1
	Rs 2000 – 4000	261	36.7
	More than Rs 4000	108	15.2

From the table it is evident that male respondent is 65.4% and female respondent is only 34.6%. About 59.2% respondents are unmarried and 40.8% are married and most of the respondent belonged to joint family which account to 61.6% and the 38.4% belonged to nuclear family. Majority of respondent 62% were up to 30 years of age, 27% belonged to 30-40 years of age and 11% of respondent were more than 40 years of age. In terms of education 66.9% of respondent were post graduated, 27.4%

were graduated and only 5.1% belonged to higher education. In terms of income 62.2% of respondent earned up to 5 lakh rupees and they prefer convenience food, 27.4% earned 5-10 lakh rupees and 10.4% earned more than 10 lakhs. About 50.8% of respondent belonged to service class, 5.6% housewives, 3.8% businessmen and 35.4% student. Additionally 18.1% buy convenience food daily, 28% buy weekly, 18% buy daily, 13.2% buy monthly and 19.7% buy twice in a month. About 48% of

respondent splurge up to Rs. 2000 on buying convenience food, 36.7% spend Rs 2000-4000 and 15.2% spend more than Rs. 4000 on buying packaged food.

## 5. Results Analysis & Discussion

### 5.1. Correspondence Analysis

The correspondence analyses were conducted to delve the relationship between socio-demographic attributes and the attributes responsible for the buying of convenience food. The correspondence analysis is an explorative data reduction and compositional method that looks for pattern in categorical data using two way or multi-way table with each row & column becoming a point on multidimensional graphical map or bi-plot (Hair & Anderson, 2010, Greenacre, 1984; Hoffman & Franke 1986). The output of correspondence analysis are shown graphically in a two – dimension map where the similar object are plotted close together and different object are plotted farther (Bendixen, 1986). It is also attributed based approach where respondent have to rate the object

based on the combination of attributes. The main objective of correspondence analysis (CA) is to explain the variance in the data (inertia) using the smallest number of dimension. Many marketing & tourism studies have applied correspondence analysis to understand the relationship between product, brand or destination and their correspondence features or attributes (Arimond & Elfessi, 2001; Kaciak & Louviere 1990). The correspondence analysis has three best advantages. Firstly it is used as data reduction method. Secondly method is very flexible regarding data requirement, where input data is dichotomous in nature and very feasible to obtain when many variable are inducted in study. Thirdly it reveals a map very useful and insightful consumer preference. The technical discussions regarding correspondence analysis are mention in article by (Canol, Green & Schaffer, 1987; Greenacre, 1984, 1986).

### 5.2. Correspondence Table between education and attributes responsible for the buying of convenience food.

Table 2

Attributes	Education				
	high school	Graduate	PG	Ph.D	Active Margin
Affordable price	6	138	303	20	467
Convenience	2	90	225	12	329
Taste/Flavor	6	173	419	25	623
Variant	4	102	209	9	324
Brand image	6	153	362	16	537
Product labeling	2	50	117	4	173
Offer/promotion	1	87	196	12	296
Advertisement	1	55	117	5	178

Quick preparation	1	70	150	9	230
Shelf life	2	91	104	8	205
Healthiness	5	137	363	25	530
Food safety	2	144	321	19	486
Active Margin	38	1290	2886	164	4378

The first statistically significant correspondence analysis explored relationship between education of respondent and different buying attributes of convenience food ( $\chi^2 = 58.48$ ,  $df = 33$ ,  $p = .023$ ). The relationship between education and different buying attributes of convenience food are shown in figure 1

**Figure 1: Two dimensional biplot relationship between education and buying attributes for convenience food.**

The figure 1 shows as people climbed to higher level of education their propensity to purchase convenience food dwindle. The respondent with Ph.D background gave more preference to food safety, healthiness and offer/promotion. However post graduated respondent seek for brand image, affordable price, taste n flavor, variant and convenience attribute. While the graduate students look for quick preparation, taste n flavor and persuaded by product advertisement while buying convenience food.

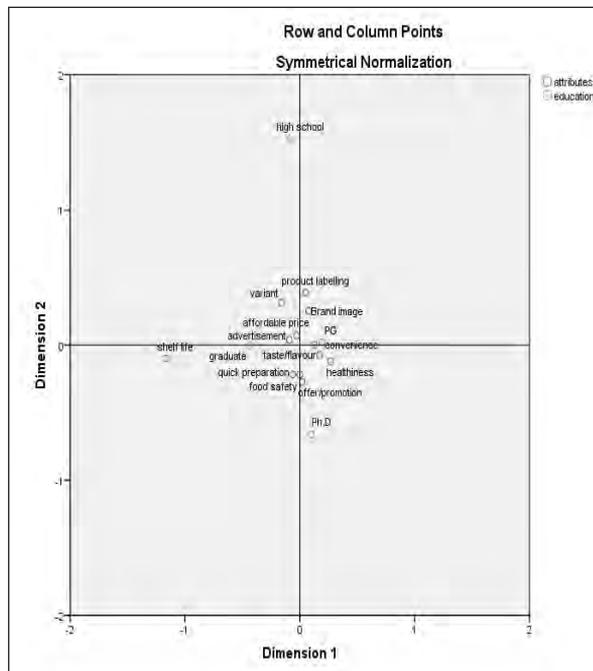


Fig 1: two dimensional biplot relationships between education and buying attributes for convenience food

### 5.3. Correspondence Table between Occupation and attributes responsible for the buying of convenience food

Table 3

Attributes	Occupation					
	Service	House-wives	Business-men	student	others	Active Margin
affordable price	222	23	18	182	22	467
Convenience	169	17	13	119	13	331
Taste/Flavor	313	35	26	219	30	623
Variant	162	20	14	117	11	324
Brand image	277	33	18	184	23	535
Product labeling	87	8	6	65	7	173
Offer/promotion	133	6	9	129	19	296
Advertisement	82	14	4	73	5	178
Quick preparation	119	14	5	86	8	232
Shelf life	129	17	11	101	7	265
Healthiness	287	30	19	175	19	530
Food safety	260	30	21	163	19	493
Active Margin	2240	247	164	1613	183	4447

The second statistically significant correspondence analysis explored the relationship between occupation of respondent and different buying Attributes of convenience food

( $\chi^2 = 59.14$ ,  $df = 44$ ,  $p = .027$ ). The relationship between occupation and different buying Attributes of convenience food are shown in figure 2

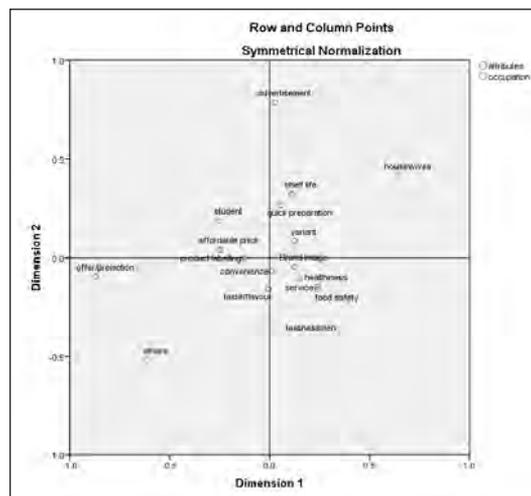


Fig 2: two dimensional biplot relationships between occupation and buying attributes for convenience food

The figure 2 shows that people hailing from service and business side look for brand image, healthiness, food safety and taste n flavor in their food product. The major segment which consume food product is student. They prefer affordable price and quick preparation.

Both student and housewives equally look for higher shelf life in their food products.

#### 5.4. Correspondence table between household size and attributes responsible for buying convenience food

Table 4

Attributes	Householdsize			
	up to 3	3-5	more than 5	Active Margin
Affordable price	88	251	128	467
Convenience	56	187	88	331
Taste/flavor	123	328	172	623
Variant	62	181	81	324
Brand image	110	289	138	537
Product labeling	35	92	46	173
Offer/promotion	62	165	69	296
Advertisement	26	94	58	178
Quick preparation	37	126	69	232
Shelf life	61	138	66	265
Healthiness	107	279	144	530
Food safety	98	270	125	493
Active Margin	865	2400	1184	4449

The third statistically significant correspondence analysis explored the relationship between household size of respondent and different buying attributes of convenience

food ( $\chi^2 = 44.84$ ,  $df = 22$ ,  $p = .048$ ). The relationship between household size and different buying Attributes of convenience food are shown in figure 3

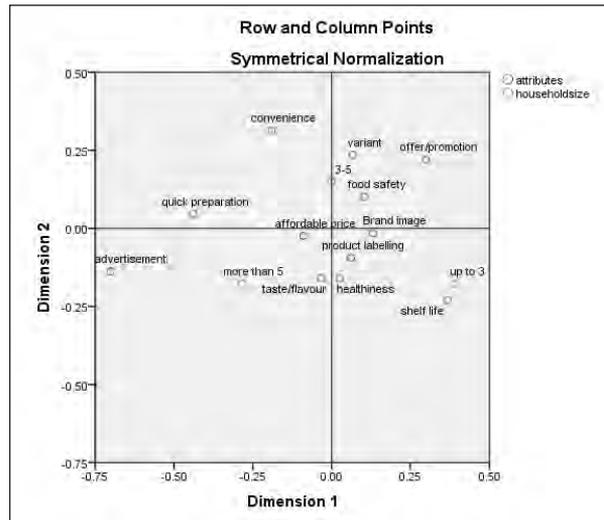


Fig 3: Two dimensional biplot relationships between household size and buying attributes for convenience food

The figure 3 shows that family comprised of 3 to 5 member purchase food product with high food safety norms, coming in different variant and keenly observe offers and promotion. The family which has more than five members look for certain attributes like taste n flavor, healthiness and affordable price. Both the family with 3 to 5 member and more than 5 members

were not interested with the brand image of the food product. The family up to 3 members keenly interested in only one attribute i.e. higher shelf of the product.

#### 5.5. Correspondence table between age and attributes responsible for buying convenience food

Table 5

ATTRIBUTES	AGE			
	up to 30 year	30-40 years	More than 40 years	Active Margin
Affordable price	312	103	52	467
Convenience	214	85	30	329
Taste/flavor	392	160	71	623
Variant	200	92	31	323
Brand image	334	145	58	537
Product labeling	113	46	14	173
Offer & promotion	207	63	23	293
Advertisement	116	50	12	178

Quick promotion	151	55	21	227
Shelf life	173	66	26	265
Healthiness	315	158	57	530
Safety	306	133	51	490
Active Margin	2833	1156	446	4435

The fourth statistically significant correspondence analysis explored the relationship between age of the respondent and different buying attributes of convenience food

( $\chi^2 = 49.328$ ,  $df = 22$ ,  $p = .035$ ). The relationship between age and different buying Attributes of convenience food are shown in figure 4

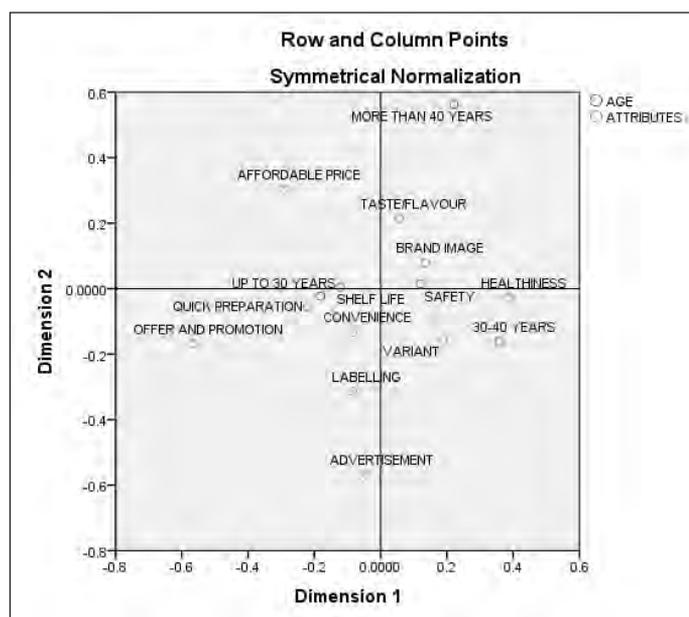


Fig 4: two dimensional biplot relationships between age and buying attributes for convenience food

The figure 4 shows that as the age advances the proclivity to consume convenience food products decreases. The young age people who are in up to 30 years of age consume a lot of convenience food. They intensely look for quick preparation, higher shelf life, different taste n flavor, convenience and offers n promotion while buying. The people who are in middle age like

30-40 years seek for specific attribute like healthiness, food safety, and various variant and also observe food labeling while buying. The mid age and young age people equally notice the brand image of the food product. The higher age people i.e. more than 40 years deter taking packaged food product because of health reason.

### 5.6. Correspondence table between monthly expenditure on convenience food and attributes responsible for buying convenience food.

Table 6:

Attributes	Monthly expenditure on convenience food			
	up to Rs. 2000	Rs. 2000-4000	Rs. more than 4000	Active Margin
Affordable price	225	168	84	477
Convenience	144	135	52	331
Taste/flavor variant	294	234	95	623
Brand image	147	140	37	324
Product labeling	256	201	80	537
Offer/promotion	77	70	26	173
Advertisement	126	112	58	296
Quick preparation	82	77	19	178
Shelf life	104	88	39	231
Healthiness	119	111	39	269
Food safety	257	192	81	530
Active Margin	230	190	73	493
Active Margin	2061	1718	683	4462

The fifth was not statistically significant correspondence analysis which explored the relationship between monthly expenditure on convenience food and different attributes related to buying of

convenience food ( $\chi^2 = 25.95$ ,  $df = 22$ ,  $p = .528$ ). The relationship between monthly expenditure and different buying Attributes of convenience food are shown in figure 5

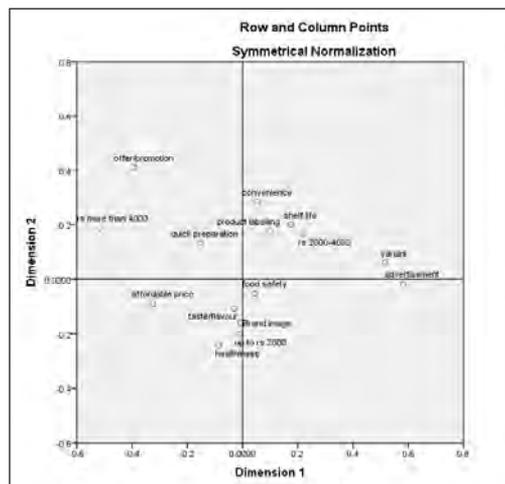


Fig 5: two dimensional biplot relationships between monthly expenditure and buying attributes for convenience food

The figure 5 reveals that the results are not significant relationship between monthly expenditure and buying attributes for convenience. This is due to almost no variation observed in the monthly expenditure on buying of processed food. This indicates

the stable pattern of consumption of convenience food in the sample household in Bhubaneswar.

### 5.7. Correspondence table between income of the respondent and attributes affecting buying of convenience food

Table 7

Attributes	Income			
	up to 5 lakh	5-10 lakh	more than 5 lakhs	Active Margin
Affordable price	319	107	41	467
Convenience	211	91	27	329
Taste/Flavor	389	172	62	623
Variant	216	72	36	324
Brand image	334	143	60	537
Product labeling	115	50	8	173
Offer/promotion	190	80	26	296
Advertisement	118	40	20	178
Quick preparation	160	51	19	230
Shelf life	179	64	22	265
Healthiness	319	160	51	530
Food safety	311	140	71	522
Active Margin	2861	1170	443	4474

The sixth statistically significant correspondence analysis explored the relationship between income of the respondent and different attributes related to buying of convenience food ( $\chi^2 = 1004.95$ ,  $df = 22$ ,  $p = .000$ ). The relationship between income of the respondent and different buying Attributes of convenience food are shown in figure 6

The figure 6 show that people belonged to higher income bracket look for only one attribute i.e. food with high safety norms. The people belong to 5 to 10 lakh income bracket look for healthiness, taste n flavor, product labeling, convenience and strong brand image. However, people with low income bracket i.e. up to 5 lakh prefer higher shelf life, affordable price, quick preparation, offer n promotion and variant and advertisement while purchasing.

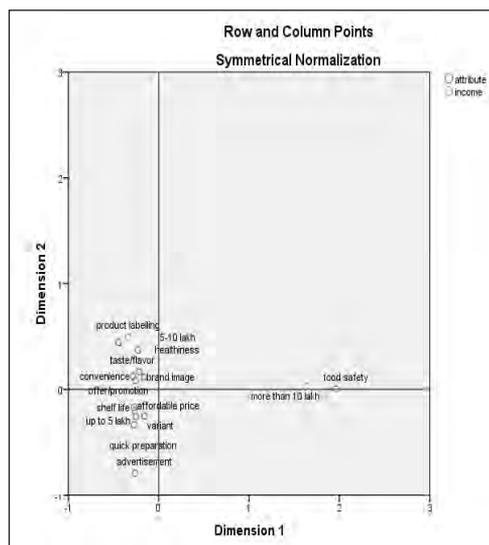


Fig 6: Two dimensional biplot relationships between income and buying attributes for convenience food

## 6. Conclusion and Future direction

In summary the research explored the relationship between socio-demographic factor & buying behavioral attributes responsible for the buying of convenience food. The graduate and post graduate student are very fond of packaged food. As the level education increases the consumption level of packaged food decreases because people are acquainted with the side effect of food products. The student prefer convenience food due to myriad of reason like tasty than home cook meals, comes in various variant, low price point and very accessible and affordable. The service and business class people are mild consumer of processed food but they consider specific attribute in food product while purchasing. These attributes are healthiness, strong brand image, food safety norms and carefully observe food labeling. The families with large member size also consider the same

attributes enumerated above. The family with two or three member gave more importance to the shelf life of the food product because for them cooking is grueling task hence it saves time and effort. Generally food product company target young people especially student & young working professional who is bachelor because for them consuming packaged food item is new experience, fun and pleasure and suit in their hectic lifestyle. The high income people never compromised with their health so they prefer low sugar n fat packaged food item. They critically observe the food labeling and food safety norms emblazoned on the food packet while purchasing.

The limitation of this research suggests directions for future research. The study can also be extended to other categories of complex convenience food product like functional/fortified food, proprietary food, energy drinks etc. We can also extend this study to

other growing city of Odisha. Besides the use of structured questionnaire, focus group or depth interview can also be conducted which provides depth insights about the relationship between socio-demographic factors and buying behavior attributes of convenience food.

### References:

- Ares, G., & Gámbaro, A. (2007). Influence of gender, age and motives underlying food choice on perceived healthiness and willingness to try functional foods
- Arimond, G., & Elfessi, A. (2001). A clustering method for categorical data in tourism market segmentation research. *Journal of Travel Research*, 39(4), 391-397
- Bajaj, C. (2019). Consumer Perception on Branding: A study on processed food.
- Baker, J., Levy, M., & Grewal, D. (1992). An experimental approach to making retail store environmental decisions. *Journal of retailing*, 68(4), 445.
- Bendixen, M. (1996). A practical guide to the use of correspondence analysis in marketing research. *Marketing Bulletin Online*, 14, Technical Note 2, 16-38.
- Bruhn, C.M.(2008), "Consumer acceptance of food innovation", *Innovation: Management, Policy & Practice*;, Food related innovation: Technology, Genetics and Consumer Impacts, Vol.10 No. 1,pp.91-95
- Brunner, T.A., VanderHorst, K., & Siegrist, M. (2010). Convenience food products. Drivers for consumption. *Appetite*, 55(3), 498-506.
- Capps, O. H. (1983). Impact of household composition on convenience and non-convenience food expenditure in the south. *Southern Journal of Agricultural Economics* , 111-118.
- Chengappa, P.G, "Food Retail Chain and Supermarket Evolution in India", Vice Chancellor, USA.
- Dabrowska A., B.-z. E. (2011). zachowania Konsumentow w stosunku do Zywnosci nowej generacji. *Hygeia Public Health*, 39-46.
- De Boer, M., McCarthy, M., Cowan, C., Ryan, I. (2003): The individual of lifestyle characteristics and beliefs about convenience food on the demand for convenience foods in the Irish market. *Food Quality and Preference*, 15(2004): 155-165
- Dennison, C. M., & Shepherd, R. (1995). Adolescent food choice: An application of the Theory of Planned Behaviour. *Journal of Human Nutrition and Dietetics*, 8(1), 9-23.
- Dettmann, R. L., & Dimitri, C. (2009). Who's buying organic vegetables? Demographic characteristics of US consumers. *Journal of Food Products Marketing*, 16(1), 79-91.
- Diallo, M. F. (2015). Drivers of Store Brands Usage in an Asian Emerging Market: Evidence Vietnam. *International Journal of Retail & Distribution Management*, 43(12), 1144-1161. <http://dx.doi.org/10.1108/IJRDM-07-2014-0086>
- Divine, R. L., & Lepisto, L. (2005). Analysis of the healthy lifestyle consumer. *Journal of Consumer marketing*.
- Engel, J. F., Blackwell, R. D., & Miniard, P. W. (2006). *Consumer Behavior*. Mason, OH: Thomson Business and Economics
- Ferreira, M., Hall, T. K., & Bennett, G. (2008). Exploring brand positioning in a sponsorship context: A correspondence analysis of the Dew Action Sports

- Tour. *Journal of Sport Management*, 22(6), 734-761.
- Fitzsimons, G. J., Hutchinson, J. W., Williams, P., Alba, J. W., Chartrand, T. L., Huber, J., & Shiv, B. (2002). Non-conscious influences on consumer choice. *Marketing Letters*, 13(3), 269-279.
- Forbairt/Enterprise Ireland. (1998). The development of the prepared consumer food sector post 1999. *Dublin Enterprise Ireland*.
- Furajji, F., Łatuszyńska, M., & Wawrzyniak, A. (2012). An Empirical Study of the Factors Influencing Consumer Behavior in the Electric Appliances Market. *Contemporary Economics*, 6(3), 76-86. <https://doi.org/10.5709/ce.1897-9254.52>
- Geest (2001). Market trends, ([www.geest.co.uk/html/profile/markets/market\\_trends.htm](http://www.geest.co.uk/html/profile/markets/market_trends.htm)), retrieved on 18th September, 2001.
- Goetzke, B. I., & Spiller, A. (2014). Health-improving lifestyles of organic and functional food consumers. *British Food Journal*.
- Gofton, L. (1995). Convenience and the moral status of consumer practices.
- Gordon, A., Finlay, K. and Watts, T. (1994), "The psychological effects of colour in consumer product packaging", *Canadian Journal of Marketing Research*, Vol. 13, pp. 3-11
- Govindasamy, R., and J. Italia (1999). Predicting willingness-to-pay a premium for organically grown fresh produce. *Journal of Food Distribution Research* 30 (2): 44-53.
- Greenacre, M.J. (1984). *Theory and Application of Correspondence Analysis*. London: Academic Press.
- Grogan, S. C., Bell, R., & Conner, M. (1997). Eating sweet snacks: Gender differences in attitudes and behaviour. *Appetite*, 28(1), 19-31.
- Grunert, K. G., & Valli, C. (2001). Designer-made meat and dairy products: consumer-led product development. *Livestock Production Science*, 72(1-2), 83-98.
- H., M. (2013). Trendy w produkcji Żywności wygodnej i przykłady jej zastosowania w turystyce - wybrane aspekty. *zeszyty Naukowe Turystyka i Rekreacja*, 105-118.
- Han, S., Ye, Y., Fu, X., & Chen, Z. (2014). Category Role Aided Market Segmentation Approach to Convenience Store Chain Category Management. *Decision Support Systems*, 57, 296-308. <http://dx.doi.org/10.1016/j.dss.2013.09.017>
- Hansen, T 2005, 'Understanding consumer perception of food quality: the cases of shrimps and cheese', *British Food Journal*, vol. 107, no. 7, pp. 500-525
- Harrison, A. (1979). Towards the Systematic Evaluation of Convenience Food. *HICMA Journal* 94(10), 27-32.
- Heider, R., & Moeller, S. (2012). Outlet Patronage in On-the-go 314-318
- Hernandez, B., Jimenez, J., & Jose Martin, M. (2011). Age, gender, income: Do they really moderate online shopping behaviour? *Online information review*, 35(1), 113-133
- Hoffman, D.L., & Franke, G.R. (1986). Correspondence Analysis: Graphical representation of categorical data in marketing research. *JMR, Journal of Marketing Research*, 23(3), 213-227
- Hoyle, Stephenson, M. T., Palmgreen, P., Lorch, E. P., & Donohew, R. L. (2002). Reliability and validity of a brief measure

- of sensation seeking. *Personality and Individual Differences*, 32(3), 401-414.
- IGD (2001). Meal solution UK: Institute of grocery distribution business publication.
- Ilya Rahkovsky, Y. J. (2018). Consumer Balanced Time & Money in Purchasing Convenience Food. *Economic Research Services*.
- Jae, M. K., Ryu, J. S. and Abdel- Ghany, M. (2000). Family characteristics and convenience food expenditure in urban Korea. *Journal of Consumer Studies and Home Economics*, 24 (4), 252-256.
- Joshi, Y., & Rahman, Z. (2015). Factors Affecting Green Purchase Behavior and Future Research Directions. *International Strategic Management Review*, 3(1-2), 128143. <http://dx.doi.org/10.1016/j.ism.2015.04.001>
- K.S.Premavalli. (2000). Convenience Food for Defence Forces based on Traditional Indian Foods. *Defence Science Journal*, 361-369.
- Kaciak, E., & Louviere, J. (1990). Multiple correspondence analyses of multiple choice experiment data. *JMR, Journal of Marketing Research*, 27, 455-465
- Kinsey, J., & Senauer, B. (1996). Consumer trends and changing food retailing formats. *American Journal of Agricultural Economics*, 78(5), 1187-1191.
- Kotler, P., Keller, K. L., Koshy, A., & Jha, M. (2013). *Marketing management: A South Asian perspective* (14th ed.). New York, NY: Pearson Education, Inc
- Kwon, Y. S., & Song, H. R. (2015). The Role of Opinion Leaders in Influencing Consumer Behaviors with a Focus on Market Mavens: A Meta-analysis. *Athens Journal of Mass Media and Communications*, 43-54. <http://dx.doi.org/10.30958/ajmmc.1-1-3>
- Lähteenmäki, L., & Tuorila, H. (1998). Predicting the intention to use juice or milk in three contexts. *Food quality and preference*, 9(4), 231-236.
- Maria, K. M., Anne, A., Ulla-Kaisa Koivisto, H., Lars, Å. & Per-Olow, S. (2001). Attitudes towards organic foods among Swedish consumers. *British Food Journal*, 103(3), 209-227.
- Martin de Boer, M. M. (2004). The influence of lifestyle characteristics and belief about convenience food on the demand for convenience food in the Irish Market. *Elsevier*, 155-165.
- McCarthy, M., de Boer, M., O'Reilly, S., & Cotter, L. (2003). Factors influencing intention to purchase beef in the Irish market. *Meat Science*, 65(3), 1071-1083
- Meulenberg, M., & Viaene, J. (1998). Changing food marketing systems in western countries. In W. M. F. Jongen & M. Meulenberg (Eds.), *Innovation of food production systems*:
- Moss, M. (2013). *Salt Sugar Fat: How the Food Giant Hooked Us*. New York : Random House .
- Muktawat, P., Muktawat, N. and Varma, N. (2013), "Impact of ready to eat food taken by single living male and female", *International Journal of Scientific and Research Publications*, Vol. 3 No. 11, pp. 1-3.
- Närhinen, M., Nissinen, A., & Puska, P. (1999). Healthier choices in a supermarket. *British food journal*.
- Newman, C, M. Henchion and A. Mathews. 2001. "A double Hurdle model of Irish Household Expenditure on prepared meals." *Economics Paper 200119*, Trinity College Dublin, 814-24.

- Nguyen, D. H., de Leeuw, S., & Dullaert, W. E. H. (2016). Consumer Behavior and Order Fulfilment in Online Retailing: A Systematic Review. *International Journal of Management Reviews*, 1-22. <https://doi.org/10.1111/ijmr.12129>
- Orji, O. (2013). Major Classic Consumer Buying Behavior Models: Implications for Marketing Decision-Making. *Journal of Economics and Sustainable Development*, 4(4), 164-172.
- Pandey, S., Khare, A., & Bhardwaj, P. (2015). Antecedents to Local Store Loyalty: Influence of Culture, Cosmopolitanism and Price. *International Journal of Retail & Distribution Management*, 43(1), 5-25, <https://doi.org/10.1108/IJRDM-08-2013-0156>
- Park, J. O. (1997). Demand for Prepared Meals by U.S. Household. *American journal of Agricultural Economics*, 814-24.
- Paulus, K. (1978). "Ready-to-serve food: Defination,application,Quality requirements:How Ready Are Ready-to-use Foods?." 6-14.
- Pliner, P., & Mann, N. (2004). Influence of social norms and palatability on amount consumed and food choice. *Appetite*, 42(2), 227-237.
- Priest, J., Carter, S., & Stat, D. (2013). *Consumer Behavior*. United Kingdom: Edinburgh Business School Press.
- Quah, S. H., & Tan, A. K. (2009). Consumer purchase decisions of organic food products: An ethnic analysis. *Journal of International Consumer Marketing*, 22(1), 47-58.
- Roosen, J., Bruhn, M., Mecking, R. A., & Drescher, L. S. (2008). Consumer demand for personalized nutrition and functional food. *International journal for vitamin and nutrition research*, 78(6), 269-274.
- Rozin, P., Fallon, A., & Mandell, R. (1984). Family resemblance in attitudes to foods. *Developmental Psychology*, 20(2), 309-314.
- S.S Manohar, BV Balasubramanyam and Sheshachala, Convenience Foods - Growth & Prospects, Indian food Industry, Vol.24, No. 4, (July-Aug) 2005.
- Saba, A., Vassallo, M., Shepherd, R., Lampila, P., Arvola, A., Dean, M., & Lähteenmäki, L. (2010). Country-wise differences in perception of health-related messages in cereal-based food products. *Food Quality and Preference*, 21(4), 385-393.
- Šánová, P., Svobodová, J., & Laputková, A. (2017). Using Multiple Correspondence Analysis to Evaluate Selected Aspects of Behaviour of Consumers Purchasing Local Food Products. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 65(6), 2083-2093.
- Sen, S., Antara, N., & Sen, S. (2019). Factors influencing consumers' to Take Ready-made Frozen Food. *Current Psychology*, 1-10.
- Senauer B., E. Asp, and J. Kinsey. 1998. *Food Trends and the changing consumer*. Minnesota : Egan Press
- Shashikiran, L., & Madhavaiah, C. (2015). Impact of Socio Economic Factors on Purchase Behaviour of Organic Food Products. *International Journal of Economics and Business Administration*, 1(2), 82-86.
- Sorenson, D., & Bogue, J. (2005). A conjoint-based approach to concept optimization: probiotic beverages. *British Food Journal*.

- Soto-Méndez, M. J., Campos, R., Hernández, L., Orozco, M., Vossenaar, M., & Solomons, N. W. (2011). Food variety, dietary diversity, and food characteristics among convenience samples of Guatemalan women. *salud pública de méxico*, 53(4), 288-298.
- Stoddard, J. E., Dotson, M., & Das, N. (2016). Using focus groups and correspondence analysis to explore the relationship between millennials' online behavior and their opinions of online reviews. *Atlantic Marketing Journal*, 5(2), 4.
- Taylor, J. P., Evers, S., & McKenna, M. (2005). Determinants of Healthy Eating in Children and Youth. *Canadian Journal of Public Health / Revue Canadienne de Sante'e Publique*, 96(Journal Article), S20-S26.
- Traub, L. a. (1979). Convenience foods and Home Prepared Foods. *USDA/ERS AER No.429*.
- Umali-Deininger, D., & Sur, M. (2007). Food safety in a globalizing world: opportunities and challenges for India. *Agricultural Economics*, 37, 135-147.
- Urala, N., & Lähteenmäki, L. (2007). Consumers' changing attitudes towards functional foods. *Food Quality and Preference*, 18(1), 1-12.
- Valaskova, K., Kliestikova, J., & Krizanova, A. (2018). Consumer perception of private label products: An empirical research. *Journal of Competitiveness*, 10(3), 149.
- Van der Horst, K., Brunner, T. A., & Siegrist, M. (2011). Ready-meal consumption: associations with weight status and cooking skills. *Public health nutrition*, 14(2), 239-245.
- Veenma, K. S., Kistemaker, C., & Lowik, M. R. H. (1995). Socio-demographic, psycho-social and life-style factors affecting consumption of convenience food. *ACR European Advances*.
- Verbeke, W., & Lopez, G. P. (2005). Ethnic food attitudes and behaviour among Belgians and Hispanics living in Belgium. *British Food Journal*, 107(10/11), 823.
- Verlegh, P.W.J., & Candel, M.J.J.M (1999). The consumption of convenience food: reference group & eating situation. *Food quality & Preference*, 10(6), 457-464
- Wansink, B., & Ittersum, K. V. (2003). Special Session Summary Weight and Height and Shape and Size: When Do Peripheral Cues Drive Evaluation and Consumption?. *ACR North American Advances*.
- Wu, P. C., Yeh, G. Y. Y., & Hsiao, C. R. (2011). The effect of store image and service quality on brand image and purchase intention for private label brands. *Australasian Marketing Journal (AMJ)*, 19(1), 30-39.
- Yun, Z. S., & Pysarchik, D. T. (2010). Indian consumers' value-based new food product adoption. *Journal of Food Products Marketing*, 16(4), 398-417.
- Zhao, X, Chambers, E, Matta, Z, Loughin, T & Carey, E 2007, 'Consumer sensory analysis