



# INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact factor: 4.295

(Volume 4, Issue 2)

Available online at: [www.ijariit.com](http://www.ijariit.com)

## Re-Imagining Organic Food Industry: Product Rationalization through Micro Segmentation

Nandish Manangi

[nandishmanangi@gmail.com](mailto:nandishmanangi@gmail.com)

Alliance School of Business, Bangalore, Karnataka

### ABSTRACT

*The Research study is being conducted to find the ways of micro segmenting the heterogeneous organic food produce market into different micro segments to find the deeper penetration and fragmentation, which enable the marketer to reach every possible micro segment. We are trying to find the benefit of micro segmentation on organic food industry. The retail FMCG industry has commendably contributed to the development of the economy in recent times, where the degree of personalization of organically grown products to enhance health benefits is relatively high. It is also easier to promote a micro destination in comparison to a macro environment. The study is aimed at analyzing the awareness level of consumers towards organic food products. A structured questionnaire survey was rolled out to 384 household respondents of Bengaluru urban city in south of India. Of the total households surveyed, 69% respondents have reported that the awareness on organic foods is strong. A logistic regression model was used to identify the most likely factors affecting the consumers' awareness on organic food. The pilot study results using logistics regression analysis indicates that the urban potential organic food Bengaluru consumers' awareness level of organic food is significantly affected by factors such as income, education, occupation, marital status, product quality, health issues, and product source. The awareness is not affected by factors such as gender, age and product Trademark. Results of the study have great managerial implication in terms of promotions related to organic food products under the category Health & Wellness.*

**Keywords:** *Organic Food, Micro-Segmentation, Rationalization, Consumer Behavior and Health Supplements.*

### 1. INTRODUCTION

In a micro environment, each buyer is potentially a separate market with unique needs and wants. Ideally, a seller should design a separate marketing program for each buyer as each client accounts for a significant portion of the company's business, but most sellers do not think that is the economically viable solution to customize their product for each specific buyer. Instead, the seller looks for broad classes of buyers who differ in their product needs. Now, when a marketer does this he tries to micro segment at the individual level in the market on the certain common basis or divides the market on some of the common characteristics of the buyer. This is known as micro segmentation.

Micro segmentation is a scientific method of sub dividing a market into homogenous micro sections of customers, so a market segment consists of a small identifiable group within a market. This is generally decided based on their wants, purchasing habits, buying attitudes etc. For example an organic food company may identify six broad segments: vegetables, produce, cereals, energy drinks, food supplements and energy bars. The consumers of a segment are assumed to be quite similar in their wants and needs.

### 2. OBJECTIVE

- To identify newer ways of differentiating consumption pattern and thereby consumers.
- To study the extent of personalization possible in the Organic food industry through micro segmentation

#### The basis for Consumer Markets

Now there is no single way to segment a market. A marketer must try different segmentation variables, either by single market or combination of multiple markets in combination, to ensure the best way to view the market structure.

Here are some variables

- **Geographic Segmentation:** This segmentation refers to the segmentation on the basis of the geographical area like continents, nations, countries, states etc.
- **Demographic Segmentation:** This segmentation consists of dividing the market based on age, gender, income, family cycle, race, etc. They are the most commonly used variables. (Organic vs Inorganic and Natural vs Hybrid).
- **Psychographics Segmentation:** It divides the buyers into different groups based on social class, life styles, and personal characteristics. (Premium consumer vs Value-centric consumer).
- **Behavioral Segmentation:** It consists of dividing the market into groups on the basis of their knowledge, attitude, use or response to a product. (Product ingredient vs. Color & Taste preference).

### Types of Segmentation

Macro Segmentation: Macro segmentation refers to dividing the market into broad groups. Example: We can divide the world into broad destinations like India, Australia, Europe, and America.

Micro Segmentation: Micro segmentation is a process of fragmenting the traditional marketing segments that are untapped by critically evaluating the needs of such segments to serve the consumer better in terms of satisfying needs. This involves extensive marketing research associated with the brain storming of innovative ideas that are need-based on the consumer perspective. The degree of critical thinking will lead to ultimate triumph.

### Micro Segmentation Process

The process of micro segmentation begins with traditional segments. The existing macro segments, which are formulated, based on factors such as demography, psychography or geography consists of numerous sub-segments with untapped needs. The business community can exploit these untapped needs and capitalize on the available demand for health benefit supplements by consuming organically grown food and produce. In most of the industries, the process is on productivity and use of pesticides and chemical preservative for the longer shelf life of Perishables. The micro segmentation arena is wide open to innovative ideas to win the battle.

## 3. METHODOLOGY

A micro segmentation exercise was performed to evaluate the benefit of personalization by differentiating consumption pattern. Here the factors like consumer needs, aspirations, value addition, product related factors were measured. Data collection: A cross-sectional study was conducted, and the questionnaire was administered between October to December 2017 to determine the Awareness about organic food of 384 household consumers, who were randomly recruited at retail shopping areas and public places in Bengaluru, the capital Karnataka. A structured questionnaire was designed to collect the research data. The questionnaire was pilot tested by 25 participants from August 2017, resulting in minor modifications made to the wording of the questionnaire. The revised questionnaire contained 12 questions, was administered by Post graduate interns as a face to face method. Section A of the questionnaire contained open-ended and closed questions dealing with demographic characteristics (age, education, marital status etc.). Section B contained questions concerning with the Awareness about organic food. The questionnaire took approximately 20 minutes to be completed Consumers' consent was required prior commencement of the study.

### Previous empirical studies on consumers and organic foods

Organic food products are more expensive than conventional ones in general, there are many empirical studies that have focused on determining the maximum price premium consumers, who are willing to pay for organic products and the factors explaining premium (Jolly, 1991; Misra et al.,1991; Ott, 1991; Govindasamy and Italia, 1998; Sanchez et al., 1998; Boccaletti and Nardella, 2000; Gil et al., 2000; Loureiro and Hine, 2002; Millock et al.,2002; Sanjuan et al.,2002; Soler et al.,2002; Corsi and Novelli, 2003; Brugarolas et al.,2005; Canavari et al., 2005; Batte et al., 2007). Empirical studies have examined the factors explaining organic foods purchasing behavior.

This section is focused on describing literature review findings to provide evidence on which of the three endogenous variables of the model: organic food purchases, intention to purchase organic food and organic knowledge. The empirical papers that illustrate factors affecting consumers purchase decision making for organic foods found that the main reasons, why consumers buy organic food products include the health and environmental attitudes of consumers, the production origin of the product (local), consumers' economic characteristics and, to lesser extent consumer's-demographic characteristics. Consumers 'health attitudes have been found to be significant in explaining consumers' organic purchases (Schifferstein and Oude Ophuis, 1998; Torjusen et al., 2001; Millock et al., 2004).

Consumers have common concern towards attitudes subjected to environments, which are the factors determining consumers purchase of organic foods (Schifferstein and Oude Ophuis, 1998; Loureiro et al., 2001; Torjusen et al., 2001; Millock et al., 2004; Kuhar and Juvancic, 2005; Padel and Foster, 2005; Verhoef, 2005). These papers conclude that the most important motives to buy organic foods are consumers 'attitudes toward health and environmental issues.

In general, it can be said that the more favorable health and environmental attitudes consumers have, the more likely they would buy organic food product and with higher intensity. Studies have found that both attitudes influence organic food purchase (Millock et al., 2003; Durham and Andrade, 2005; Padel and Foster, 2005) but the health attitudes are very much has influence as compared to environmental ones in consumers 'purchases of organic foods [except for Durham and Andrade (2005) who found, for USA consumers, that environment is more influential than health in consumers' organic purchase decision].

Consumers Income level as a demographics is a major factor in explaining organic food purchases in few empirical studies (Torjusen et al.,2001; Millock et al., 2003; Kuhar and Juvancic, 2005; Tsakiridou et al., 2006) while income has not been statistically

significant in determining organic food purchases, according to studies carried out for USA consumers (Loureiro et al., 2001; Durham and Andrade, 2005; Onyango et al., 2006; Zepeda and Lin, 2007).

Findings from the empirical studies suggest that income has a strong positive influence on organic food purchases, implying that consumers with higher income are more likely to buy organic food products. Socio-demographic characteristics were also found to be a significant factor in explaining the purchase decision mainly in empirical studies conducted in the USA (Thompson, 1998; Thompson and Kidwell, 1998;) Findings from the later studies indicate that older, more educated consumers and those living in larger households are more likely to buy organic food products. Only the study by Byrne et al. These empirical studies found that some consumers' sociodemographic characteristics and attitudes towards organic food products influence the intention to purchase. Organic product knowledge is an important factor because it represents the only instrument that consumers must differentiate the attributes of organic products from those of conventional ones, and create a positive impact on attitudes factor and quality perceptions toward these organic products. Organic knowledge is determined by socio demographic variables such as education level and income and psychographic variables (Behavior stages and lifestyles). In addition, organic knowledge is affected by information provided by the public administration, mass media, ecological associations, and shopping site. Thus, the level of organic product knowledge will depend on socio-demographic characteristics, lifestyles, and information on organic products available on the market.

Empirical studies on global organic foods and consumers have been conducted. Few of the authors have focused on analyzing willingness to pay for organic foods according to value returns on health benefits (Boccaletti and Nardella, 2000; Corsi and Novelli, 2003; Canavari et al., 2005); customer satisfaction with organic foods (Asciuto et al., 2003; Cembalo et al., 2004); and consumers' store perception regarding organic foods (Naspetti and Zanolì, 2004).

### **Theory of Planned Behavior: Organic Food Purchases**

The intention to purchase organic food products positively influences the final purchase behavior. This means that consumers, who report are very likely that they will buy organic food products and have a higher probability to purchase higher levels of organic food products. The irony of organic food consumers is that those consumers, who are more willing to buy organic food products are more likely to buy larger amounts of those products. Then, final organic food product purchases are closely related to consumers' predisposition to buy organic food products. Moreover, intention to purchase depends on attitudes and organic product knowledge. In organic food products consumer behavior, purchases depend on attitudes towards health and environmental benefits provided by organic food products, together with knowledge about the organic product. Consumers who believe that organic food products are healthier and are more concerned about pollution and environmental damage, are more likely to be willing to buy organic food products. Organic food consumers who report higher levels of organic product knowledge are more willing to buy organic food products.

**Sample size:** (384) Household consumers were interviewed throughout the population (12.34 million), the sample size was determined according to the following equation:

$$n = \left\{ \frac{(p \times q \times z^2)}{e^2} \right\} / \left\{ \frac{(N \times e^2)}{z^2} + \frac{(z^2 \times p \times q)}{(N \times e^2)} \right\}$$

Where:

n = Sample Size

P = The proportion that the sample will occur = (0.5)

q = The proportion that the sample will not occur = (1 - p) = (0.5)

z = The standardized score = (1.96)

e = Error term = (0.05)

N = Population = (12.34 million)

### **Statistical Analysis**

The descriptive statistics data analysis techniques were adopted; cross tabulation and chi-square test using SPSS 17.0 version. The Logistics Regression is the best model suitable for multivariate analysis, hence this model is used to analyze the factors influencing the awareness level of consumers on organic food.

## **4. RESULT AND DISCUSSION**

### **Socio Demographic Profile of Samples**

The demographic characteristics of respondents by gender, age, education, marital status and monthly income according to consumer awareness were described in the below Table-1. There were 276 respondents who have reported strong awareness of organic foods i.e. 72% of total respondents (384), Female respondents are comparatively more aware than male, which accounted for 52%. The majority 58% of the respondents were in the age below 40 years with an average age of 34 years.

The young generation is more aware of organic products and concerned about food safety and issues including environmental food products. These results support the findings that respondents with age less than 40 years old are significantly more aware of organic food than its elder counterpart (Chi Square = 13.741, P=0.008), This could certainly be because strength and effectiveness of

agricultural media to spread awareness to the importance of organic food. Education plays an important role to promote awareness among people.

The chi-square tests result revealed a significant difference in education among those aware of organic foods and unaware (Chi-Square = 9.069, P=0.028), which implies that educated people are comparatively more aware of organic foods. It is also evident that about 83% percent respondents, with awareness on organic foods. The majority 81% of married participants were aware of organic food (Chi-Square = 4.213, P=0.041). As for as income level of the consumers is concerned, the majority of the respondents belong to (More than One Lakh Rupees) income levels and have higher level of awareness (48%) of organic food products than respective counterparts food (Chi-Square = 15.669, P=0.001).

**Table -1: General Characteristics of Participants According to Consumer Awareness**

General Characteristics			Total	Chi-Square	Significance
	Unawareness (%)	Awareness (%)			
<b>Gender</b>					
Male	32(29%)	77(71%)	109(28%)	6.748	0.034*
Female	85(31%)	190(69%)	275(72%)		
<b>Age</b>					
<29	27(25%)	82(75%)	109(28%)	13.741	0.008*
30-39	36(31%)	79(69%)	115(30%)		
40-49	28(29%)	67(71%)	95(25%)		
>50	17(26%)	48(74%)	65(17%)		
<b>Education</b>					
Educated	53(17%)	266(83%)	319(83%)	9.069	0.028*
Uneducated	18(28%)	47(72%)	65(17%)		
<b>Marital Status</b>					
Single	36(28%)	91(72%)	127(33%)	4.213	0.041*
Married	49(19%)	208(81%)	257(33%)		
<b>Monthly Income</b>					
<20K	13(22%)	47(78%)	60(16%)	15.699	0.001*
20-50K	29(16%)	155(84%)	184(48%)		
50-90K	18(28%)	46(72%)	64(17%)		
>90K	22(29%)	54(71%)	76(20%)		

Source: Survey results, \*P<0.05

**Factors affecting consumers towards organic food products:**

Table 2 Shows the Logistic Regression Model analyzing the factors affecting consumers towards organic food products. The experimental model estimates the relationship between socio-demographic factors of the consumers and awareness level.

The pilot study result of regression analysis indicates are likely important socio-demographic factors affecting the awareness level of the consumers on organic food. Findings of regression analysis indicate that education, occupation, marital status, income, desire, promotion, quality, health issues, product source are likely important socio-demographic factors affecting the awareness level of the consumers on organic food. In logistic regression analysis, as per Ken Black on Multi-variate analysis, consumer awareness on organic food had a significant positive association with factors affecting without gender, age and trademark (P<0.05). The findings of this study have critical implications for all stakeholders involved in organic food certification, production, processing, and marketing.

Variables	$\beta$	S.E	Wald	Exp( $\beta$ )	Significance
Gender (1=male, 0=female)	0.207	0.915	0.051	1.23	0.821
Age (1=<29, 0=otherwise)	0.132	1.146	0.013	0.877	0.908
Education (1=educated, 0=otherwise)	4.884*	1.573	9.641	132.115	0.002
Occupation (1=worker, 0=otherwise)	4.002*	1.093	13.397	54.681	0.000
Income (1=<50K, 0=otherwise)	1.055*	0.276	14.608	0.348	0.000
Desire (1=Like organic food, 0=otherwise)	2.103*	0.296	50.36	0.122	0.000
Promotion (1=use of promotion, 0=otherwise)	1.116*	0.251	19.836	0.328	0.001
Quality (1=foodquality,0=otherwise)	0.676*	0.291	5.41	1.966	0.020
Health issues (1=health food, 0=otherwise)	0.681*	0.291	5.533	1.933	0.019
Trademark (1=there are trademark, 0=otherwise)	1.054*	0.276	15.855	0.348	0.000
Product Source (1=local, 0=otherwise)	0.25	0.285	0.769	1.284	0.381
Constant	2.728*	0.908	9.031	15.302	0.003
R2	0.331*	0.103	9.016	0.733	0.003
Value of log-likelihood function	0.827				
Correct prediction (%)	158.73				
Chi-squared	53				
	369.05*				

Source: Survey results, \*P<0.05

## 5. CONCLUSION AND MANAGERIAL IMPLICATION

The Socio Demographic Behavior framework consists of cross-sectional view of consumer behavior stages intersecting with their consumption lifestyle based on their place where the consumer lives. The study provided a total 6 behavior stages cutting across with 3 lifestyle places where the spending pattern is found to be different based on study outcome. The cross-sectional view forming an index is termed as micro segment. Each micro segment will serve as a managerial feedback to focus on product promotions and will be decision-making focus on pricing strategy.

### Organic Food Consumer Profile

#### Total Rupees spent per 100 HHs

#### Socio Demographic Framework with 3\*6=18 micro segmentation

Socio Demographic Framework		Capital Cities	Tier I & Tier II Cities	Villages	Total	% Total
With Children	Start-Up New Families HHs with Young Children Only < 6	100	90	66	75	18.65%
	Young Earning Families Large HHs with Children (6+), HOH <40	42	43	69	74	15.45%
	Older Struggling Families Large HHs with Children (6+), HOH 40+	49	37	44	65	17.89%
	Independent Earning Single 1 person HHs, No Children, 35-64	90	67	71	94	16.76%
Without Children	Senior Earning Singles 1 person HHs, No Children, 65+	187	175	56	168	18.75%
	Senior Citizens 2+ person HHs, No Children, 65+	120	129	84	125	12.50%
	<b>Total</b>	<b>155</b>	<b>164</b>	63	100	
<b>% Total</b>		<b>28.60%</b>	<b>32.55%</b>	38.85%		

Very High Consumer, 150+

High Consumer, 120-150

The outcome of the pilot study proves that the organic food consumer is more likely to be Senior Earning singles living in metropolitan centers. The next behavior stage to focus on organic manufactures are Young Millennials living in Metropolitan centers as these consumers are also having next higher skew, who are more likely to purchase organic food products provided the price for the product is favorable in terms giving them instant health benefits or at least provide a confidence of gaining positive health benefits for the extra premium to be paid by the Young millennial consumers.

Behaviour Framework	
Start-Up	New Families
HHs with Young Children Only < 6	
Young Earning Families	
Large HHs with Children (6+), HOH <40	
Older Struggling Families	
Large HHs with Children (6+), HOH 40+	
Independent Earning Singles	
1 person HHs, No Children, 35-64	
Senior Earning Singles	
1 person HHs, No Children, 65+	
Senior Citizens	
2+ person HHs, No Children, 65+	

Figure3: Socio Demographic breakup as Behavior Stages

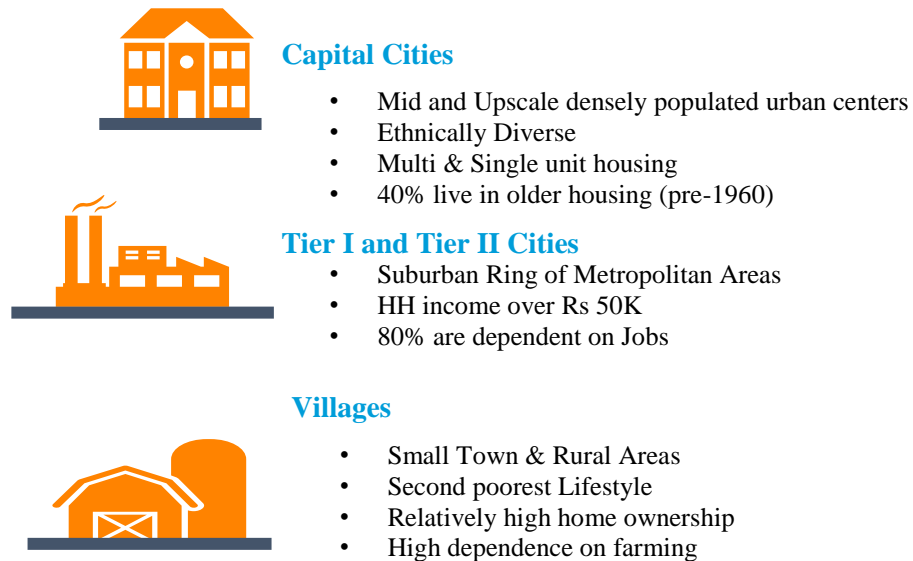


Figure 4: Lifestyle Classification based on Living Conditions

Consumer concerns about food safety, quality and nutrition are becoming increasingly important in Bengaluru city, which has provided increased opportunities for organic foods in last three decades. One need untapped potential markets for organic food in a city like Bengaluru to be realized with the different front's organization interventions, which require a better understanding of consumer preferences on food. Therefore, the analysis can be considered to raise consumer awareness of the various aspects of organic products, such as land is important to build markets for organic food in the first phase of the development of the market. The survey results revealed that only 69% of total respondents were aware of 'organic food, It indicates that for the majority of the even aware people 'organic food' is still away from their food basket. The results of this pilot study, where logistics analysis indicates that potential Bengaluru consumers are strongly awareness of organic food and significantly affected by factors such as education, occupation, marital status, income, desire, promotion, quality, health issues, and product source.

The awareness not affected by factors such as gender, age, and Trademark. Results of the study have a significant implication to understand consumer awareness and knowledge of organic foods. To take advantage of the market potential in organic food and organic industry needs to educate consumers. The research study provides enough empirical evidence to pay attention to marketing strategies concentrated on price and product availability as well as the development of direct sale and specialized shops. Moreover, producers should pay certain attention to declaration elements.

Results from this pilot study are of great importance because they provide valuable information on consumers in Bengaluru that can be used by FSSAI (Food Safety and Standards Authority of India) department in organic farming at the national level.

## 6. REFERENCES

- [1] Gracia and T. de Magistris. Organic food product purchase behavior: a pilot study for urban consumers in the South of Italy, Spanish Journal of Agricultural Research 5(4), 439-451, 2007.
- [2] Alizadeh, A., Javanmardi, J., Abdollahzadeh, N. and Liaghat, Z. Consumers' Awareness, Demands and Preferences for Organic Vegetables: A Survey Study in Shiraz, Iran, 16th IFOAM Organic World Congress, Modena, Italy, June 1620, Archived at <http://orgprints.org/view/projects/conference.html>, 2008.
- [3] Batte, Marvin T, N. Hooker, T. C. Haab, and J.Beaverson..Putting their money where their mouths are: consumer willingness to pay for multi-ingredient, processed organic food products. Food Policy 32:145-159, 2007.
- [4] Briz, T, and R.W. Ward. Consumer awareness of organic products in Spain: An application of multinomial logit models. Food Policy 34:295-304.2009.

- [5] Essoussi, Leila Hamzaoui, and Mehdi Zahaf. Decision making process of community organic food consumers: an exploratory study. *Journal of Consumer Marketing* 25 (2):95-104.2008.
- [6] Gracia, A, and T Magistris. Organic food product purchase behaviour: a pilot study for urban consumers in the South of Italy. *Spanish Journal of Agricultural Research* 5 (4):439-451. 2007.
- [7] Gracia, Azucena , and Tiziana Magistris.. The demand for organic foods in the South of Italy: A discrete choice model. *Food Policy* 33:386-396.2008.
- [8] Jordanian Society for Organic Farming (JSOF). Annual Report.2013.
- [9] Lillywhite J.M., Al-Oun, M. and Simonsen, J.E... Growth Potential in the Organic Foods Market of a Developing Country, <https://www.ifama.org>,2011.
- [10] Lockie, S, Lyons, K, Lawrence, G and Mummery, K (2002), "Eating 'Green': Motivations behind organic food consumption in Australia", *European Society for Rural Sociology*, Vol. 41(1), pp. 23-40.
- [11] Magistris, T., and A. Gracia. The decision to buy organic food products in Southern Italy. *British Food Journal* 110 (9):929-947, 2008.
- [12] Makatouni, A. What motives consumers to buy organic food in the UK, Results from a qualitative study. *British Food Journal* 104 (3):345-352.2002.
- [13] Millock et al., 2004 Millock, K., Wier, M., Andersen, L.M., 2004. Consumer's demand for organic foods-attitudes, value and purchasing behavior. Selected paper for presentation at the XIII Annual Conference of European Association of Environmental and Resource Economics, June 25–28, Budapest, Hungary.
- [14] Ministry of Agriculture, Annual Report.2013.
- [15] Onyango, Benjamin M, W.K Hallman, and A.C Bellows. 2007. Purchasing organic food in US food systems: A study of attitudes and practice. *British Food Journal* 109 (5):399-411, 2007.
- [16] Parichard Sangkumchalianga and Wen-Chi Huang. Consumers' Perceptions and Attitudes of Organic Food Products in Northern Thailand, *International Food, and Agribusiness Management Review*, Volume 15, Issue 1, 2012.
- [17] Shepherd, Richard, M. Magnusson, and Per-Olow Sjoden. Determinants of consumer behavior related to organic 17 *J. Agric. Food. Tech.*, 3(12)14-18, 2013
- [18] foods. *Ambio* 34 (4):353-359.2005.
- [19] Squires, L., Juric, B. and Cornwell, T. Level of market development and intensity of organic food consumption: cross-cultural study of Danish and New Zealand consumers, *Journal of Consumer Marketing*, 18(5), 392-409, 2001.
- [20] Storstad, O., and H. Bjorkhaug. Foundations of production and consumption of organic food in Norway: Common attitudes among farmers and consumer? *Agriculture and Human Values* 20:151-163.2003.
- [21] Sushil Kumar and Jaber Ali. Analyzing the Factors Affecting Consumer Awareness of Organic Foods in India. Prepared for presentation at 21st Annual IFAMA World Forum and Symposium on the Road to 2050: Sustainability as a Business Opportunity, Frankfurt, Germany during June 20-23, 2011.
- [22] Tsakiridou, E., M. Konstantinos, and I. Tzimitra-Kalogianni, (2006), "The influence of consumer's characteristics and attitudes on the demand for organic olive oil", *J. Int. Food Agribus. Market*. Vol. 18, pp. 23-31.

#### **Research Scholar Profile**

#### **Nandish Manangi**



Research Scholar in Consumer Analytics, Data Scientist, Project Management Professional, Lean Six Sigma Green Belt Certified.