

Marketing Orientation Led by Consumer Motivations Towards Agribased Products : An Evidence from Udupi District in India

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Abstract

In this paper, we analyzed consumer motivations towards locally grown fruits and vegetables in the city of Udupi, Karnataka (India). A survey was conducted using mix method (both qualitative and quantitative design) to elicit responses from consumer households of the region. Deductive study design was used to identify concepts and codes of research interest from existing literature and pilot study was conducted to induce new concepts and codes. Further, factor analysis (principal component method) was performed to identify and retain key elements defining consumer motivations. The results indicated that sensory appeal, customer engagement, utility factors, and convenience in shopping were key motivators that influenced consumers' preferences towards locally grown fruits and vegetables. The results were used to develop a stage wise conceptual framework on consumer motivations towards F&V. The study suggested a marketing orientation plan to promote the consumption of fresh fruits & vegetables and its value added products. The marketing strategies can be adopted by horticulture promoting agencies, policy makers, and marketers to design mass marketing campaigns and awareness programs to promote agribusiness.

Keywords : vegetable consumption, marketing strategy, consumer preference, fruits and vegetables marketing, health marketing campaigns

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Consumption of fruits and vegetables are an important component of a healthy diet. Fruits and vegetables promote a range of health benefits as they carry essential sources of phytonutrients. Globally, consumption of vegetables and fruits among people has been consistently below the recommended standards prescribed by the World Health Organization. A study conducted on adult participants of 52 low and middle-income countries revealed significantly low intake of fruits and vegetables. A World Health Organization evidence on nutrition actions revealed that reduced consumption of fruits and vegetables is linked to poor health and increase of non-communicable diseases. This study reported that 3.9 million deaths were attributed to inadequate consumption of fruits and vegetables. India needs to maintain a daily intake of 400 grams (five servings of 80 grams average size) of fruits and vegetables (www.downtoearth.org) to be consistent with the

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WHO report to meet the recommended standards on diet, nutrition, and prevention of chronic diseases (World Health Organization, 2019). The recommended standards are to ensure a series of health benefits available on regular F&V consumption. A survey of 1001 individuals from five major Indian cities conducted by Indian Council for Research on International Economic Relations revealed that average intake of vegetables and fruits is higher in upper-income groups. Average intake of F&V in case of middle and upper income groups was found to be 3.5 servings per day (two servings of vegetables and 1.5 servings of fruits). Production is high, but Indians consume less vegetables and fruits. A countrywide cross-sectional study using the WHO stepwise methodology in Uganda found that only 12% out of 3962 participants consumed more than five servings of F&V per day (Kabwama, Bahendeka, Wesonga, Mutungi, & Guwatudde, 2019). Men and women consumed less than the minimum recommended five servings (or 400 grams) of fruits and vegetables per day (Hall, Moore, Harper, & Lynch, 2009). Despite of serious concerns and publicity efforts, there exists a gap between actual intake and recommended standards even in developed nations like Australia, Canada, Europe, UK, and USA (Darian & Tucci, 2013) and also in emerging markets like India. Abysmally low figures of variability in F&V intake has been reported in countries like Ghana and Pakistan (Sachdeva, Sachdev, & Sachdeva, 2013). Although many consumers are aware of the positive health effects of fruit and vegetable consumption, the intake is well below the WHO recommendations of 400 grams of fruits and vegetables or five servings per day. The ensuing section provides a detailed categorization of literature evidence covering studies in consumer preferences, food safety, food marketing, and health benefits offered by fruit and vegetable intake.

Review of Literature

Several studies encompassing literature globally have discussed the patterns and preferences of consumers towards fruits and vegetables. Findings in vegetable research reveal that contextual and cognitive variables influence vegetable consumption and behavioural variables require predictive investigation. Food marketing affects the choices of adolescent consumers based on a study of parents' perceptions (Sivathanu, 2017). Nutritionally knowledgeable consumers are willing to pay more for additional information on nutritional value from food products (Drichoutis, Lazaridis, & Nagya Jr., 2009). According to Kabwama et al. (2019), fruit and vegetable consumption does not significantly differ across social and demographic factors except marital status and geographical region of residence. There is a need to educate consumers to increase the rate of vegetable consumption by mass media like radio and television and more actions by health workers to reinforce the patterns of vegetable consumption (Nti, Hagan, Bagina, & Seglah, 2011). The purchase patterns differ across groups and, therefore, different marketing strategies should be applied to market vegetables for each cluster (Darian & Tucci, 2013). The state is disengaged in the process of systemic change in agri-infrastructure (Sulaiman, Kalaivani, & Handoo, 2010).

Consumers are health conscious and it is necessary to maintain the recommended allowances of fruits and vegetables in the daily diet (Bourke, 2010). While, health related aspects are similarly valued across regions, purchase preferences differ considerably according to consumers' place (Moser, Raffaeilli, & Thilmany, 2011). Frequency of monthly purchase of fruits and vegetables were significantly determined by consumers' level of income (Ohen, Umeze, & Inyang, 2014). The preference of consumer households towards food products largely depends on cleanliness and freshness with convenience of purchasing and additional services finding top priority. Consumers' preference towards vegetables clearly indicates priority to cleanliness and freshness. Selection of marketplace depends upon the convenience in purchasing and availability of additional services. Fruits and vegetables are mostly purchased twice a week; whereas, groceries are purchased less frequently (Ali, Kapoor, & Moorthy, 2010). Value chain activities influence change of price in case of marine products (Kotni, 2018). Attention on product orientation factors results in profit maximization in case of milk products (Rameshkumar &

Vikraman, 2018). Brand value of premium agri - products can be increased by teaching the art of brand nourishment to retailers (Baliga, Joshi, & Shenoy, 2019). Customer involvement measured by brand loyalty, time taken to choose the product, and product information search significantly influenced the consumer decision making process towards ready-to-eat cereals (Simon & Manohar, 2017). Concerns of food safety acted as a catalyst in changing consumer attitudes positively towards organic foods (Jose & Koshy, 2018). Behavioural patterns like appearance, nutritive value, and freshness are main considerations affecting purchase decision (Jayatilake & Mahalianaarachchi, 2007).

Consumers prefer different purchase points for vegetables because of their personal differences in demographic, socioeconomic, and socio - cultural characteristics (Akpınar, Aykin, Sayin, & Ozkan, 2009). Willingness to purchase is primarily driven by privately-oriented attributes like personal health and experiential eating quality. An integrated marketing strategy should be developed using the brand name of the grower and the organic nature of the product to stimulate demand for locally grown vegetables and fruits (Topcu, Uzundumlu, & Yavuz, 2010). The marketing problem in the context of vegetables and fruits is understood by the inconsistency between consumers' intention and actual buying behaviour. It is ,therefore, necessary to understand the measurements of these variables to develop marketing strategies (Sigurdsson, Larsen, & Gunnarsson, 2011). With the knowledge of factors that influence consumer purchase behaviour, the trader is able to segment the consumers based on buying characteristics of different income groups (Chikkamath, Atteri, Srivastava, & Roy, 2012). The nutritional value present in vegetables as understood by the consumers along with a moderate price of vegetables may encourage enhanced consumption, thereby conferring a marketing incentive to plant breeding (Dias, 2012). Tailor made social marketing plans can be developed based on consumer cluster characteristics to tackle the problem of obesity in European and Mediterranean countries (Alamanos, Bourlakis, & Tzimitra - Kalogianni, 2013). Organized retail channels bring better supply chain efficiencies as the commodity is directly purchased from the farmers (Mishra, Singh, & Singh, 2014). Even after being one of the world's largest producers of fruits and vegetables, India's consumption of these items is less than the daily intake prescribed by the WHO report. Reduced fruit and vegetable consumption increases the risk of non - communicable diseases (NCD), including cardiovascular diseases and certain types of cancer. Limited studies have also suggested that vegetables and fruits consumed as a part of a diet low in fat, sugar, and sodium may result in loss of weight and lower risk of obesity (World Health Organization, 2019). Efforts to raise the awareness of the benefits linked with increased fruits and vegetables consumption will go a long way in building a healthy nation. The next section provides a geographic overview of the study area, Udupi District, along with the profile of major horticulture crops grown in the region.

Udupi District – Profile and Overview of Horticulture Crops

Udupi District was created in August 1997 in the state of Karnataka by bifurcating three taluks, that is, Kundapura, Udupi, and Karkala. Bordered by the blue waters of the Arabian Sea on the west coast and sheltered by the Western Ghats on the east, the district is blessed with abundant rainfall, fertile soil, and lush vegetation.

Udupi is located at 13 04' and 13 59' North latitude and 74 35' and 75 12' East longitude and is surrounded by Uttara Kannada District in the north, Dakshina Kannada district in the south, and Shimoga district in the south. The principal commercial crops (refer to Figure 1) grown in the district are cowpea (125 metric tons), brinjal (1414 metric tons), gourd variety vegetables (11732 metric tons), okra (97 metric tons), and leafy vegetables (1965 metric tons). With well-endowed surface and ground water necessary for agriculture, the district leads in the production and processing of cashew, coconut, and fruits like banana (24613 metric tons), mango (3142 metric tons), lemon (235 metric tons), guava (137 metric tons), sapota (884 metric tons), and papaya (1129 metric tons) (Udupi District Statistics, Government of Karnataka, India, 2015).

Figure 1. Major Horticulture Crops Grown in Udupi District



Source : National Horticulture Board Sunday Public Market, Doddanagudde Village, Udupi District clicked by researchers using observation study design.

Pilot Survey of Households – Purposive Method

The research objective is to find out whether there is information asymmetry in the awareness of WHO recommended guidelines in fruit and vegetable consumption. In-depth interviews, a method of qualitative research design, were conducted to understand the depth of information the consumers have on the dietary guidelines towards vegetable consumption. Purposive method of selecting people deliberately with purpose was followed to recruit consumers with an intention of meeting participants who were 'information-rich' on the study topic. The theoretical principle of saturation was followed to recruit 21 participants. This is a point where no more new information repeats itself, which is different from the one already collected. In-depth interview was considered as an ideal technique as it facilitated the discussion of these specific topics in depth (Hennink, Hutter, & Bailey, 2011). Similar research conducted in Bologna (Italy) to study apple attributes interviewed 20 participants using qualitative design (Ceschi, Canavari, & Castellini, 2017) to confirm the research objective. A semi-structured interview guide was used as a research instrument which had interview questions of exploratory nature having three sections. The first section had opening questions broadly related to the demographic, socio-cultural, and lifestyle based questions of the participants. The next section had key questions seeking detailed explanation on frequency of F&V consumption, quantity consumed, type of fruits and vegetables, awareness of WHO guidelines on daily intake, and awareness of health marketing initiatives by the State run agencies in the district. The third and the final section was on closing questions to 'fade out' from the interview, where the participants were asked on any further inputs to add and their future plans to maintain a healthy consumption habit. The survey brought out the following findings :

- ✎ Participants were unaware of the dietary guidelines and had no clue on the criteria of minimum F&V intake.
- ✎ There was lack of information on the nutritional value aspect of F&V consumption. They only knew that consumption of F&V is good for health.
- ✎ The promotional strategies adopted by State run agencies limit activities to setting up of markets and making produces available at the vegetable market (also called *mandis*).
- ✎ In most of the cases, the member of the household, who is responsible for purchases, did not consult his/her family members' choices of F&V. What was seen in the market is what was bought.

✎ The participants revealed that the family did not make additional effort to gain information on the nutritional and dietary guidelines offered by F&V consumption.

Research Gap and Study Motivations

Studies in existing literature in the area of agri-business are broadly classified into consumer behaviour towards F&V consumption, channels of distribution, and marketing costs. On reviewing the literature, it is found that consumer preferences are further operationalized into health and nutritional benefits, agri value chain and food marketing both in India and countries like USA, Greece, Italy, and Australia. Detailed literature is available globally on marketing of food products, especially processed food including meat in these countries. When it comes to the marketing of fresh fruits and vegetables and ready to eat vegetarian, fish, and meat products in India, the marketing literature fails to draw deeper insights. Literature gaps also exist in the way how consumers react to convenience offerings and merchandising arrangements provided by the seller. The succeeding section discusses the methodology used in the study.

Methodology

(1) Materials and Methods : The geographical scope of the study is represented by households of three select taluks of Udupi District, namely, Udupi, Karkala, and Kundapura, which have a geographical area of 929 square kilometres, 1076 square kilometres, and 1560 square kilometres, respectively (Udupi District Statistics Office, Government of Karnataka, 2015). All households (2, 53, 078) of Udupi District listed as per the Census data 2015 is the population for the study from which the sample was randomly drawn. The reason for choosing households as the population is that the purchasing of fresh fruits and vegetables is performed by a member of the households (Goksel et al., 2009). The sample respondent was a single member of the household (Chikkamath et al., 2012). Thus, 384 respondents were selected by using the formula for proportions, $n = Z^2 * p * (1p) / c^2$ (Krejcie & Morgan, 1970 ; Sachdeva, 2008 ; Topcu et al., 2010). Where, Z is 95% level of confidence with percentage of consumers picking a choice is assumed to be 50 : 50. Weighted sample size was used and the respondents were distributed among three districts proportionate to their population using Census data. The study was conducted by interviewing each respondent at their place of stay. The succeeding section elaborates the survey procedure of the study.

(2) Survey Design and Procedure : The sampling procedure (Alamanos et al., 2013 ; Malhotra & Birks, 2007 ; Topcu et al., 2010) involved households randomly selected from the sampling frame, that is, the household database maintained at each village panchayat level of these taluks. The random number selection key in Microsoft Excel was used to generate an indiscriminate number of the households from the sampling frame. The number was subsequently mapped to the serial number of the household database with postal pin code maintained with the village panchayat and postal address of the selected household was tracked. A structured questionnaire was used as a research instrument, which had three main sections. The first section had demographic and socioeconomic structure questions like age, gender, occupation, household income, and members in the family. The second section had questions on consumption frequency and quantity of F&V, and the final section invited responses on the consumption motivations of the respondents using a 5-point Likert scale (1= *totally disagree*, 5 = *totally agree*) in the form of statements (Uma & Bougie, 2010). The study was conducted from February 2018 – June 2019. The statements considered relevant and with research importance were retained, referring to the deductive design approach using literature evidence and few statements were included after consulting

agri - experts of the local region using inductive design approach. This procedure resulted in constituting four major constructs :

✚ **Organoleptic Characteristics** : Buyers tend to select vegetables based on sensory appeal like taste, smell, colour, and feel (touch).

✚ **Product Gratifiers** : Selection of vegetables is influenced by characteristics specific to the produce like variety of vegetables on display, freshness, physical damage, perishability freshness, and firmness.

✚ **Convenience Influencers** : Buyers show an inclination to purchase if the seller provides information and adds convenience (hygiene, home delivery, modes of payment, involvement) to their shopping experience.

✚ **Merchandising Constituents** : Buyers are motivated towards their act of purchase on the basis of the offerings presented at the point of purchase. These constituents are sellers' efforts to nourish the product (salesmanship, display, discounts and offers, availability) and entice the buyer towards the act of purchase.

Table 1. Consumer Motivation Statements - Rotated Factor Matrix and Groupings

Factors	Dimensions/Statements	Factor Loading	Variance Explained (%)
Organoleptic Orientations	I buy if the preparations are tasty.	0.68	17.64
	I buy if it smells good.	0.76	
	I buy if the dishes that can be prepared have nice flavour.	0.87	
Engagement Towards Purchase	I buy on the basis of its colour.	0.81	14.45
	I expect salespersons to provide good service at the store.	0.85	
	I need clean conditions at the purchase point.	0.83	
Utility Based Dimensions	I am motivated to buy if the display is attractive.	0.81	10.54
	Salesmanship facilitates my purchase decision.	0.75	
	Vegetables are comfort foods.	0.63	
	I give myself more time during shopping.	0.67	
Convenience of Shopping	I consider perishability when I buy vegetables.	0.66	7.23
	Outlets should provide other facilities of payment besides cash.	0.79	
	I need home delivery.	0.76	
	I prefer to shop from the nearest store.	0.52	
Merchandising Attributes	I am particular about time of purchase during the day.	0.60	6.01
	I prefer that store which maintains consistency in product availability.	0.55	
	I have a special liking for branded products.	0.86	
Quality Related Aspects	I want vegetables to be fresh.	0.60	4.82
	I feel big size means better quality.	0.81	

Analysis and Results

The constructs were tested for reliability using Cronbach's alpha (Javali et al., 2011 ; Tavakol & Dennick, 2011). As a measure of inter - item consistency reliability, Cronbach's alpha was used to test the inter correlations between statements to find out whether all items tap into one construct (Javali et al., 2011 ; Tavakol & Dennick, 2011). The reliability measure was run on all statements with a 5 point Likert scale (1= *totally agree*, 5 = *totally disagree*) to finally retain 29 statements which tap into four main constructs with alpha values of 0.79 (organoleptic), 0.71 (product gratifiers), 0.72 (convenience influencers), and 0.71 (merchandising constituents). Thereafter, a factor analysis technique was carried out on 384 responses which generated six factors. Bartlett's test of sphericity was carried out to test whether the correlation between variables was statistically meaningful. The value of p (0.000) being less than 0.05 confirms the suitability of the use of factor analysis for the data set with a KMO statistic value of 0.75.

These factors were arrived after a varimax rotation, a technique that was used to extract few variables of research importance for interpretation of results and labelling & naming of the factors (Chawla & Sondhi, 2011). These six factors put together explain 60% of the variance (refer to Table 1). In order to classify the buying orientation statements, a cut-off of 0.50 was applied on the factor loadings. In the process, a few statements with less factor loads were dropped from the final interpretation (Malhotra & Birks, 2007). The application of factor analysis technique resulted in identifying and retaining the most important statements (post extraction) that describe consumer motivations. We now suggest a marketing orientation plan targeting these consumer motivations.

Discussion on Marketing Orientation – A Stage Wise Approach

The marketing orientation framework focuses on deploying a strategy as a step-wise approach on considering consumers' motivations. Marketing strategies are developed by considering the priorities of consumer motivations. Deployment of these strategies (refer to Figure 2) will help in increasing consumption of fruits and vegetables in rural markets. To enable consumer acceptance for locally grown agri-produces and its value added products, we propose the following strategies :

(1) Stage 1 - Customer Benefit Positioning and Merchandising Strategy : A good way forward is to adopt a consumer benefit positioning strategy which focuses on product or consumer benefits. It is observed that consumers' buying decision is largely based on organoleptic factors. Buyers first visualize tasty and aromatic dishes that could be made out of local vegetables, and then go ahead with their purchase decision. Strategies that remind consumers about the tasty dishes that can be prepared from these vegetables should be explored. Tasty dishes bring consumer satisfaction and it is a good idea to paint walls of the store with the visuals of tasty dishes with a caption 'tasty brinjal pickles,' 'tasty potato fritters,' and 'fresh cucumber salads'. These tactics have a strong recall value, thereby giving a higher chance for produces to get into the purchase basket.

➤ **Merchandising Strategy :** This strategy is a good option to move and increase traffic towards the F&V shelf. Value added products like vacuumed okra, green chilly pickles, brinjal fritters, and jackfruit fritters need more buyer traffic during new product launches. One way to increase store traffic is to place them in 'hot-spots' like billing counters. These areas are more visible and accessible and hence are effectively able to draw consumer attention. They should also be placed at eye-level so that they are able to invite attention.

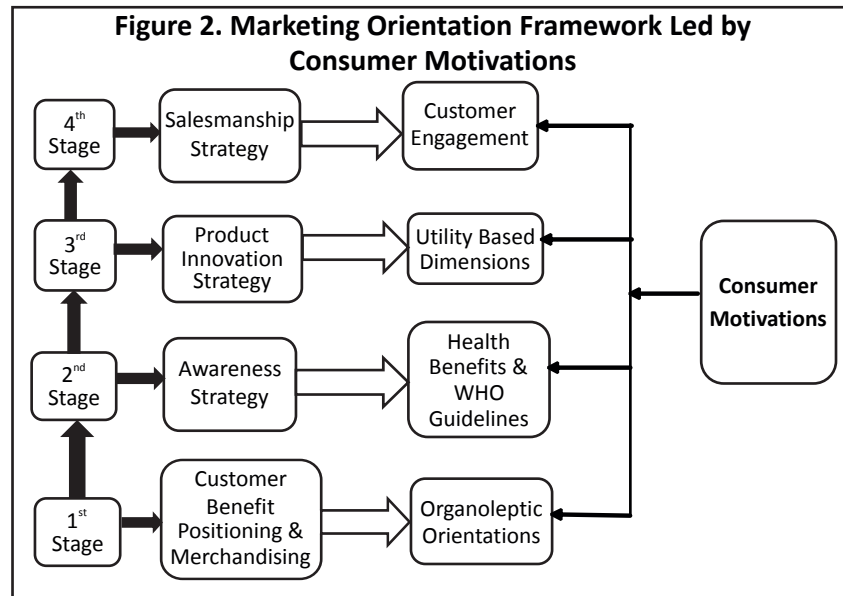
Another way to maintain food stability is to refrigerate or go for misting. Vegetables like potatoes and onions can be grouped in bulk as they do not requiring cooling. Other vegetables like tomatoes, okra, different types of

gourds can be preserved under refrigeration or misting as they require a cool environment. In poultry farming, the birds thrive on misting to maintain a cool environment. This strategy may work well in case of F&V. Displaying vegetables using colour combinations and grouping may look visually appealing. For example, displaying tomatoes, brinjal, capsicum, and carrots together will blend well. Pretty ones with good shape and colour should be stacked right in front of the eye-line. Choicest fruits and vegetables should take notice and should be within hands reach. Produces should look freshly picked and if something is close to spoiling, the price should be reduced to ensure rapid sale. Produces merchandised correctly will lead to increased sale. The store keeper can also adopt cross promotion and diversification. It is an act of keeping related items together. For example, pickles (any vegetable) and brinjal should be placed together. With this, the customer is reminded to prepare brinjal pickles. Bananas and chips should be placed together to remind customers about banana chips. Such ideas using visual merchandise may prompt meal preparation techniques which consumers may not have thought of when walking into the store.

(2) Stage 2 - Awareness Strategy : Creating awareness on the WHO dietary guidelines and health benefits of F&V consumption can be undertaken jointly by the State agencies and local growers' association. National Horticulture Board and Agriculture Produces Marketing committee can be torch bearers as awareness and promotion are a part of their marketing objectives. 'The Village Health and Nutrition Day' (VHND), a health awareness initiative run by the National Health Mission, Ministry of Health and Family Welfare, Government of India can be an excellent avenue to start the awareness campaign. Under this program, the Accredited Social Health Activists, also called the 'ASHA' workers, who work as social change agents, mobilize villagers, especially women and children to Anganwadi (pre-primary schools) centres. This arrangement is a platform for all the villagers to interact freely with the ASHA workers and gain information on basic services and nutrition. Since majority of the villages are in rural areas (68%, Census Report, 2015), the proximity of these agents will work wonders to disseminate information related to dietary guidelines and health benefits accruing from F&V consumption.

(3) Stage 3 - Product Innovation Marketing Strategy : Consumers' choice is influenced by type and variety of products on offer. The onus therefore is on the retailers to make fresh produces attractive and value added products available on the shelf. Small businesses (retailers), kirana stores, and farmer associations should innovate new health friendly value added products into the market and thereby increase sales. For example, value added agri-products like Brinjal gojju, a form of salad, vacuum fried okhra and brinjal, potato, brinjal and banana fritters will easily find space in the shelves of health conscious consumers. Self-help groups (SHGs), popularly known as micro enterprises in the rural areas, are largely represented by rural women, who are engaged in weaving, candle making, soap making, owning small retail shops, and cashew nut processing. SHG women, if trained, have the potential to experiment, innovate, and prepare new value additions. In supermarkets and retail stores, value added products should be placed near the billing counter so that the products stand a best chance of being picked. Locally prepared recipes, which are high in nutritional value, can be promoted through health marketing campaigns on popular local television channels, radio FM, and in local newspapers (70% of the households in the district had television and 60% of the households subscribed for the popular local vernacular daily newspaper, *Udayavani*). Marketing of these products can be undertaken by the agriculture cooperative marketing societies operating in the region. Premium products (1st grade products) can be marketed using the farmland approach. Farmland approach is a joint effort by the local farmers and the leading organized retail partners like Aditya Birla More for You, SPAR retail, Big Bazar Retail, who sell premium products at a higher price to higher income consumer groups.

(4) Stage 4 - Salesmanship Strategy : Retailers should increase their efforts of salesmanship by persuading the consumers to buy. The result of such persuasion should convert into an act of purchase, thereby benefiting both



buyers and sellers. It is found that the consumers are not given enough time of being heard as the seller has poor listening skills. Consumers often feel the necessity of being heard towards their questions being answered on nutritional value, expiry date, growers' affiliation, organic nature of produce, price, and freshness to name a few. They expect commercial honesty on the part of the seller to win their confidence. An ideal salesmanship approach should bring benefits to the agents, producers, and consumers. The Government of Karnataka has set up agriculture promotion machineries like National Bank of Agriculture and Rural Development (NABARD), National Horticulture Board (NHB), and Agriculture Produces Marketing Committee (APMC) to promote the marketing of agriculture produces in the state. These bodies should undertake to up skill the retailers in salesmanship. They need to learn the art of nourishing the produces and brands.

Marketing Implications and the Way Forward

In academic sense, the study contributes to the food consumption and marketing strategy literature and from the industry standpoint, marketers can practice deployment of these strategies in rural markets through mass marketing campaigns. The results of the study can also be used by policy makers to design interventions and promote the consumption of vegetables leading to improved health of the population. The findings indicate that marketing strategies to promote consumption of vegetables can be designed broadly based on sensory appeal, consumer engagement attributes, utility dimensions, and convenience of shopping as they collectively influence consumer purchase decision. Mass marketing campaigns are suggested instead of segmentation, considering the rural profile of the consumers. The onus of implementing these strategies lies with agriculture produce promoting agencies set up by the state along with the growers' associations. These agencies carry responsibility and ownership to promote consumption of horticulture crops and create agriculture marketing infrastructure.

In the distribution chain, retailers should be trained to adopt new methods such as refrigeration of vegetables and pre-sell orders. Refrigeration is not used in the local markets as this option is capital intensive. The pre-sell method can be used to place orders directly with growers and reduce time to market (TTM). It will also work well with local restaurants as hotels purchase vegetables in bulk quantity. Training salesperson on effective salesmanship skills becomes an important aspect in customer engagement. Agriculture promoting agencies are advised to develop health and nutrition campaigns among the rural population to increase awareness of vegetable

consumption with focused messages on print and electronic media highlighting benefits of nutritional value. For instance, 'gojju,' a simple and easy local preparation, generally made of brinjal and potatoes, high in nutritional value, can be promoted through health marketing campaigns on popular local television channels, radio FM, and in local newspapers as a 'how to prepare nutritional recipe'. In supermarkets and retail stores, value added products should be placed near the billing counter so that the products stand a best chance of being picked. A stage by stage marketing orientation plan backed by mass media campaigns will go a long way in attracting the rural population towards increased F&V consumption.

Limitations of the Study and Scope for Further Research

World Bank statistics (n.d.) on development indicators in India reported that 66.46% of the Indian population is with rural orientation. Similar market profiling can also be seen in the study area (68% of Udupi population is rural, Udupi District statistics, 2015). Accordingly, this study will be more relevant to emerging economies with rurally dominant markets. Countries with urban consumer profiles may derive value from a digitally designed marketing orientation plan, and are less likely to go for an offline-non-digital marketing plan. Profiling urban F&V consumers separately using an income based segmentation plan is an area for further research. Emerging economies, where rural consumers outweigh the urban consumer profiles, may draw critical inferences from this study. Farmers and rural consumers seek human interaction and ,therefore, a qualitative study design with focus group discussion of village gatekeepers as well as farmers will provide better results on the socioeconomic set up.

Authors' Contribution

Dr. Vikram Baliga conceived the idea and developed qualitative and quantitative design to undertake the empirical study. Mr. Santhosha Shetty G. extracted research papers with high repute, filtered these based on keywords, and generated concepts and codes relevant to the study design. Dr. Sandeep Shenoy verified the analytical methods and supervised the study. The interviews and were conducted by Dr. Vikram Baliga and Mr. Santhosha Shetty G., some in colloquial language and some in English. The same were further transcribed and translated into English by all the others. The numerical computations were done by Dr. Vikram Baliga using SPSS 20.0. Dr. Vikram Baliga wrote the manuscript in consultation with both the authors.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest, or non-financial interest in the subject matter or materials discussed in this manuscript.

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