DELHI SCHOOL OF MANAGEMENT

(DELHI TECHNOLOGICAL UNIVERSITY)

Project

Subject:

MOTIVATING THE CONSUMERS TOWARDS ORGANIC PRODUCTS AND THE IMPACT OF COVID-19 ON CONSUMER'S DEMAND FOR ORGANIC PRODUCTS IN INDIA

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<center>**CHAPTER-I**</center>

<center>**INTRODUCTION**</center>

1. INTRODUCTION

The word" Organic" defines growing and processing agricultural products (Padiya and Vala, 2012). Consequently, the way of producing organic products and the regulations differs from one country to another. Generally, organic products must be grown and processed without pesticides, bioengineered genes, and fertilizers. The emergence of organic products started its origination from the developed countries like UK, USA, and EU countries (Mukherjee, 2017). Recently, there is a huge emergence for the popularity of organic products owning to various aids. Also, it is grown in a natural environment which in turn accelerates the immune system. Thus, it increases the demand for foods in the market. Some of the other driving attributes are improvisation in the distribution channel and an increment in the people's income level, which increases the market considerably. Globally, with 2.8 million producers and the organic products market crossed over Euro 97.34 billion in 2022.

<center>Figure 1 Organic market</center>

47% of producers are in Asia, 28% in Africa, 24% in Europe, and 8% in Latin America. Out of 47% of producers, India utilized 4.43 million hectares to cultivate organic products in 2022.
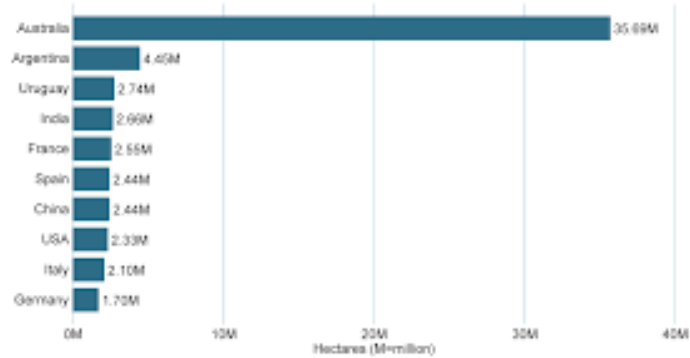
<center>1</center>

Figure 2 Cultivate organic products

India's most significant organic product producer has 2.66M, Uganda with and 2.76M producers. By the FiBl survey, retail sales of organic products reached 21 billion in 2020.
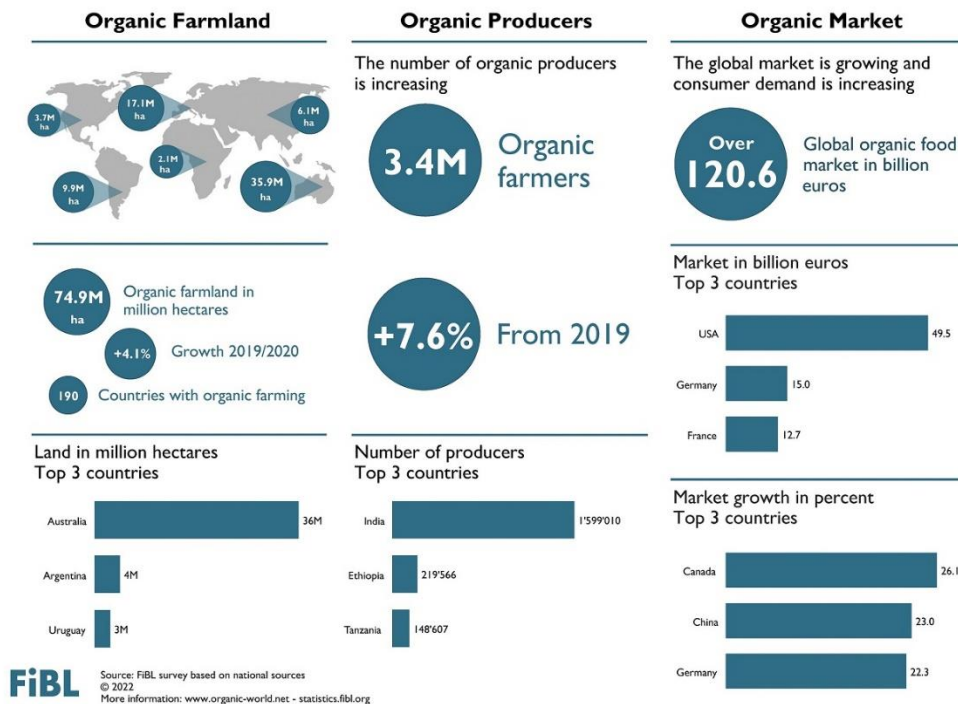

Figure 3 Organic producers

Indian market

India is an agricultural country, and the most populous country with a population of 1.3 billion people, of which 300 to 350 million people belong to the middle class, whereas 400 million people are poor (Banerjee, 2017) large part of the population faces food scarcity, even though Government has taken steps by formulating policies and regulations,. Many marketers indulge in unfair practices and are involved in fraud, adulteration, and other practices (Dandage et al., 2017). Thus, Indian consumers have a high level of insecurity about products. Indian exporters follow food safety standards, but not in the domestic country for selling the products. . As per the report of the national center for disease control, 51% of food commodities are contaminated with pesticides and heavy metals in India (Jose et al., 2020). In 2014, Kerala found that among 44 vegetables, ten were found to be contaminated due to endocrine disruptors (Pillai, 2014). An endocrine disruptor is a chemical that can accelerate sexual abnormalities, congenital disabilities, and even reproductive failure (Jayaraj et al., 2016). Kerala Agricultural University has found many pesticides and insecticides in vegetables and spices (John, 2017). Also, organochlorine pesticides are highly used in agriculture to control mosquitos. Using such chemicals in agricultural land contaminates the foods that affect many individuals' health (Eluru, 2020).

Increasing the number of contamination in foods creates more health issues, and hence the concern greatly influences consumers' minds. Thus, demand for organic products has been increasing. The changing scenario is visible in all parts of India, and thus there is a high potential for organic products in the Indian market. As a result, organic products have a market of 12.1% of CAGR, and the market has the potential to reach USD 208 billion in subsequent years. These facts, induce the researcher to assess Indian consumers' reason to consume organic products in India

1.1.BACKGROUND OF THE STUDY

Food and environmental factors affect human health a lot; nearly 690 million people suffer from hunger. Also, food security forecasts to be higher due to the covid-19 situation and the consequent economic shock (FAO et al., 2020). On the other hand, 13.1% of the total population is obese, which results in a double burden of malnutrition (UNICEF, 2020). More adults, i.e., 677.6 million adults, face

constraints due to overweight, obesity, which arises due to lifestyle changes, low levels of physical activity, and unhealthy diets (WHO, 2020). Also, food choices play a key role in influencing adult healths. Individual food choices are based on food consumption, lifestyle, physical need, and technology development (Montanari, 2006). However, in modern society, increases national wealth, urbanized living leads the individual to choose more organic food products (World Health Organization, 2019). Organic food refers to a product free from fertilizers and pesticides (Victor and Revathy, n.d). The primary reason behind choosing organic products is that non-organic products associate more with health issues (Crino et al., 2015; Monteiro et al., 2013; Poti et al., 2017). Also, It is having quality issues that are common among consumers and producers. Hence, consumers are looking for products which promote individual health and wellbeing, affordable and safe products. A detailed analysis of organic products in India is given below

Organic products in India

Organic products have grown without using chemical fertilizers and pesticides. The process of growing organic products is an environmentally and socially responsible approach. India has a potential for organic products because of agro-climatic conditions and a niche concept (Apeda. 2021). The current market for organic food products is anticipated at 400,000 million INR with increased exports of products to other countries (Chokhani, 2018). India is the largest exporter of organic products in Asia (Market, 2018). Also, the country ranks eighth in terms of world organic agricultural land and first producers by 2020 data (Source: FIBL & IFOAM Year Book, 2020). India is producing 275 million MT of organic products which are certified. The largest organic producing items are Cereals & millets, dry fruits, vegetables, fiber crops, pulses, and spiecies and condiments.

After determining the organic products, the frequency of consuming organic products was assessed. Pearson et al. (2013) have discussed the frequency of organic products consumers regularly have bought, never, often, occasionally, and have stopped buying the products. Dumortier et al. (2017) has discussed the purchase frequency in terms of nine aspects, namely "rarely," "Less than once a year," "Every six months," "Once a month," "Every two weeks," "1-2 times a week," "3-4 times a week," "5-6 times a week," and "Daily." It showed the outcome that the purchase frequencies of

organic products were rarely made. Gupta (2016) stated that Indian consumers were having the highest frequency of organic products. Thaker and Jain (2019) have pointed out in their study that Indian consumers' purchase frequency is assessed in terms of once in a week, twice in a week, once in a month, twice in a month, and once in a quarter. They found the outcome that the highest consumers were procuring the products twice in a month. Nagy-Pércsi and Fogarassy (2019) pointed out in the study that the consumption frequency measured in terms of five-point Likert scale, namely do not consume, once in a month, once or twice in a month, once or twice in a week, three or four times in a week, and daily. Also, Mean and standard deviation applied to determine the most frequency and least frequency of items. The study observed that vegetables and fruits were having the highest frequency of consuming organic products. Overall, the studies show that the purchase frequency of organic products can be assessed with the help of a five-point Likert scale. Also, the study assesses the product items individually with the selected purchase frequency. It includes the frequencies like once a week, fortnight, monthly, once a year, and two times a year or more. As pointed out in the literature, the researcher measures the purchase frequency using mean and Standard deviation.

Consequently, the researcher assesses the shopping places of purchasing organic products through comprehensive literature support. As discussed in the study, Nandi et al. (2014) places like specialized organic stores, hypermarkets/supermarkets, direct sales/sales on-farm, conventional small retail shops, and open local markets. With the help of standardized weight scores, the study showed that the most predominant places respondents chose to shop organic products were specialized organic stores and supermarkets. Consequently, the purchasing place of retail markets, organic markets, producer's farms, and others has been considered (Chandrashekar, 2014). Respondents utilized the most suitable place to purchase organic products as organic products and producer's farms.

Similarly, consumers chose supermarkets, vegetable markets, specialty stores, the internet, organic farms, and others to consume organic products (Li and Xin, 2015). With the help of simple percentage analysis, the most preferred purchasing place was supermarket whereas least from organic farms and others. Also, specialized shops, supermarkets, and direct producers were the preferred places for purchasing organic products (Singh and Verma, 2017).

It was found from the above studies that purchasing places can be measured using percentages and descriptive statistics. The researcher can identify the most preferred and least preferred purchasing places for consuming organic products from the above-stated methods.

Studies have pointed out that friends and family members are advised to purchase organic products (Chiciudean et al., 2019). Also, television, newspaper, magazine and friends, and family were subcategories in assessing consumers' awareness of organic products (Dutta and Sardar, 2020). Consequently, specialists (nutritionists, doctors, and environmentalists) are considered important sources in knowing the organic products (Suguna and Kamatchi, 2018). All the studies assessed the aspects using frequency distribution. The above studies clarify that friends, family, specialists, and farmers are the widest influencers in consuming organic products. Hence, all the aspects have been taken into account.

Market demand for organic products

Organic product demand and consumption increased significantly in recent years (Massey et al., 2018; Singh and Verma, 2017; Basha et al., 2015; Rana and Paul, 2017). Consumers choose the products based on the products' health aspects and nutritional qualities (Ling, 2013; Basha et al., 2015). Generally, consumer selection is the primary activity that influences the consumers to consume every day. The selection of products is based on attributes like Health, natural content, animal welfare, price, sensory appeal, and the decision process made on attributes to satisfy the consumers (Hamzaoui-Essoussi and Zahaf, 2012). Demand for the products can also be assessed based on before and after purchase or consumption (Massey et al., 2018; Gracia and de Magistris, 2008; Wirth et al., 2011). Moreover, (Manaloor et al., 2016; Jose, 2018; Ummyiah et al., 2017) has discussed that the secondary data information sufficient to measure the global demand for organic products. Also, the best way to assess the global demand for Indian organic products can be evaluated through CAGR. From the studies, the researcher acquired the knowledge that organic product demand can be measured through CAGR. Therefore, the same analysis has been implemented in the present study.

Barriers to buying organic products

Barriers exist in buying organic products that control the individual whether to consume them or not. Studies have stated that there are factors that ruin the individual's consuming organic products. Its inclusion of price, insufficient knowledge, and low availability (Calverley, 2005; Alberta Government, 2003). While in another study, it has been proved that cost, time and knowledge were the primary barriers in buying organic products (Ham et al., 2016). Consequently, one study has pointed out that prices, quality, and availability were why consumers do not buy organic products (Buder et al., 2014). Mkhize et al. (2020) have discussed that the main barriers to buying organic products are higher prices, insufficient knowledge, and low availability. Bryla (2016) has pointed out that low visibility and expiry dates were the primary reason behind not consuming organic products. Paul and Rana (2012) have identified that Indian consumers face huge constraints due to dissatisfaction and distrust in availability, information, price, and variety.

1.2. PROBLEM STATEMENT

Asia is the largest producer of organic products and the third-highest sales in the global market. Out of many Asian countries, India has the third-largest wild harvest land contributing a lot to organic food, to be about 4.1 million hectares. Also, the hectares support the production of organic products across the globe. The action accelerates the CAGR to 25%, and the present value of the sector estimates 6 billion USD, with anticipates being around 15 billion by 2025. Organic food production received global attention because the country exports worth USD million 849.5 in 2022. Even though Indian organic food production is gaining global recognition, the demand for the local market is still at nascent stages. In addition, the local demand highly prevails in metropolitan cities in India (Basha and Lal, 2019). Organic products gaining popularity in the cities are due to health benefits and no chemical usage (ANI, 2018). Generally, organic products are reliable is that it has no chemical pesticides and fertilizers. It is also grown naturally with natural insecticides and pesticides (ANI, 2018). The demand is higher among Indian consumers because of changes in the lifestyle of Indian consumers; transformation in food consumption patterns increases the demand for the products in the market. Domestic sales of organic products are estimated to 63 million USD in the country. Also, Organic product users usage depends on attributes like health consciousness. Therefore, the

study evaluates how organic product attributes induce the consumer to choose organic products in India.

However, Covid-19 changed life significantly due to the spread of the pandemic. It urges people to consume organic products and reap immunological benefits through consuming food by its importance to health (Piek, 2020). Thus, the aspects induced the researcher to recognize the demand for organic products in the Pandemic in India

1.3.AIM OF THE STUDY

The study aims to recognize the consumer motives of organic products and their market demand during Covid-19 in India.

1.4.OBJECTIVES OF THE STUDY

- To identify the attributes which motive the consumers to buy organic products in India
- To find out the barriers for consumers to buy organic products in India
- To analyses the market demand for organic products in the market for Covid-19 in India
- To offer suitable suggestions to the marketers to utilize the demand in the market

CHAPTER-II

LITERATURE REVIEW

2. LITERATURE REVIEW

Oroian et al. (2017) has pointed out in the study that how consumers perceive organic products in Romania. The authors acquired thirty items from the literature support, assessed the aspects using quantitative research methods. Descriptive statistical analysis had utilized to assess the socio-demographic profile of respondents. With the help of exploratory factor analysis, the study assesses the dimensionality of twenty-five items into six constructs: natural and sustainable consumption, extrinsic attributes, health, sensory appeal, social aspects, and weight concern. Moreover, the study had taken ANOVA to find out the most and least differed groups. The outcome of analysis could be the highest mean differences were found in health aspects whereas least in extrinsic attributes. The strength of the study is the effective assessment of items through exploratory factor analysis which paves the way to derive out the constructs. However, the main weakness of the study is that it did not integrate the outcome with the theoretical aspects. In addition, the authors fail to give precise information on how the determined attributes vary among the groups. Also, there are no literature studies to support the analysis. The study would be more interesting if the explanation on attributes integrated with the other studies.

Ghali and Hamdi 2015 focused on assessing how the attributes played a key role in determining the consumption of organic products. The authors analyzed the exploratory research conduct among 60 Tunisian consumers through qualitative research methods. The study observed the participants' opinion that price, health, ethics, satisfaction, and the local economy were the primary attributes in determining the consumption of organic products. The researcher picks out the most determinant attributes as health and price that have been taken into account from the study. However, the authors fail to recognize how important the attributes were to determine the consumption of organic products.

Janssen (2018) has pointed out in the study that identifying the motives of organic food products. The authors assessed the aspects with the help of panel data. The outcome of the study portrayed that natural aspects & health and environmental

protection are considered the primary attributes of organic food purchases among households. Also, the positive influence of attributes was local and domestic food, desire to have quality food and enjoyment of eating food. Consequently, the study concluded that the attributes played a key role in determining the motives of consuming organic products. Thus, the researcher acquired the most important drivers of organic products: natural aspects and health; the attributes have been taken into account. However, the researcher fails to investigate the present year, and hence it isn't easy to accept the 2008 outcome portraying the current trend of organic products. Moreover, the main weakness of the article is that how the theory supported the outcome of the study is not at all included. The study would be more interesting if the study uses the current data; assess the aspects with the help of SEM.

Tandon et al. (2020) has discussed that the consumer reasons behind purchasing organic products. The study utilized behavioural reasoning theory to determine the interrelationship between motives and purchase intention of organic products. The authors had adopted qualitative research methods; semi-structured interviews were conducted to determine the outcome. The analysis depicted the reasons to buy organic products due to the ecological welfare, nutritional and natural content presented in the products. However, consumers were not using the products due to usage and risk barriers in the products. Also, the study observed that the reasons had a strong relationship with the purchase intention of products. The researcher finds that variables like nutritional and natural content are playing a key role in influencing the consumers to purchase organic products. However, the authors fail to acknowledge the significance of attributes in consuming organic products through interviews. There is no proper explanation supporting the reason for assessing qualitative research methods assessed with quantitative tools (CFA and moderation analysis). The study would have been more beneficial if the authors evaluated the aspects using qualitative tools.

Shin et al. (2019) has stated in the study that how consumer motives induce the consumer to have organic products. Moreover, the consumer willingness to pay for the products has been taken into account. The authors had taken steps in assessing the aspects through quantitative research methods. Survey techniques had adopted; opinions were assessed using SEM. Attributes like environmental attributes, value, and health consciousness had taken into account. The analysis showed that the

strongest predictor of willingness to pay was environmental aspects, social value, and health consciousness. Consequently, the attributes that determine the purchase intention were health, social value, and environmental concern. Therefore, the study concluded that the three attributes determined the purchase intention of organic products. From the study, the researcher acquires the most predominant influencer is health and environmental concern. However, the study does not attempt to give a proper explanation of how samples are selected. There is no precise information on how theoretical perspectives integrate the outcome of the study.

Liang, Rong-Da (2016) has pointed out in the study that how the attributes (certification, prices, retail channels, properties, and mechanism) having a relationship with the purchase intention of products. The authors assessed the aspects through quantitative research methods in which questionnaire techniques were adopted. SEM analysis provided an outcome that the positive attitude towards certification and channels positively affected consuming organic products. However, consumers who saw high price products tended to pick out lower priced goods whereas higher priced goods with relational channels had a high effect on purchase intention. From the study, the researcher observes that prices play a key role in determining the purchase intention of organic products. The strength of the article is that applying quantitative research methods paves the way to adopt SEM that gives an effective outcome. However, the author overlooks the fact that certification and channels influence purchase intention. But there is no proper explanation on whether other variables (mechanism and properties) have influenced the purchase intention of organic products. Moreover, the study did not consider pre-existing theories, which is vital in integrating the outcome. The researcher feels that the conclusion would be more effective if the theories were supported the results.

Grzybowska-Brzezinska et al. (2017) point out in the study that the attributes induce the consumers to choose organic food in Poland. The authors emphasize three attributes: sensory, functional, and prestige to know the respondent's opinion on attributes. Sensory attributes focus on the color and smell of food, followed by functional attributes representing composition, production, and processing methods of foods, shelf life, and prestige indicate producer logo, origin, place of purchase, and price. The analysis shows that production and processing methods, appearance, logo, and price were the attributes that determine consumers to purchase organic

foods. Concerning market attributes, health benefits were the primary attributes that determine to consumption of organic foods. Overall, 90% of consumers motives choose chemical-free products to protect the entire family's health. However, the author overlooks that the opinion was analyzed in three different years (2005, 2010, and 2013). There is no proper explanation on why different years have been considered. Also, the respondent's opinion may vary, and hence the outcome derived from the study is not acceptable. Thus, the researcher concludes that the study would have been more interesting if been studied for consecutive years. Also, it can provide the real reason behind consumer's motives towards organic food in Poland.

Brečić et al. (2017) draw on vast importance to intrinsic and extrinsic food quality attributes varying from various consumer segments. Besides, the study assesses the association between consumer segments and the frequency of consuming food products. The study examines the attributes, namely health and sensory attributes, price, body weight, digestion, and convenience, with quantitative research methods. Intrinsic attributes include health, sensory attributes, body weight, and digestion, whereas extrinsic attributes contain price, availability, and convenience. The analysis observed that sensory appeal and health are considered important intrinsic food attributes, whereas convenience as the primary extrinsic food attribute influences the consumers. Finally, the study concludes that socio-demographic attributes different various consumer segments owing to various consumption patterns. However, the author fails to quantify the nature of the association between consumer segments and the frequency of differentiated food products. The most crucial criticism of the study is that there is no theory to back up the intrinsic and extrinsic food quality attributes on varying consumer segments.

Renko et al. (2011) question whether to examine the consumer motives and beliefs of organic food. The study uses sensory, convenience, price orientation, healthiness, and safety to assess consumer motives. The outcome shows that the essential attributes are sensory attributes, which help consumers decide whether to buy organic food. Also, price and safety are the second most essential attributes determining the consumer decision on organic foods. Convenience and price orientation are the least attributes of organic food. Moreover, consumers' openness to novelties and willingness to try new food is the primary attributes frequently used to

determine organic products. Thus, the study concludes that attributes are essential in inducing consumers to have organic food. However, the study has also framed the objective as identifying the barriers to buying organic products. There is no statistical explanation on how barriers influence the consumers in buying organic food. The study would be more useful if the author addressed how barriers affect organic food consumers.

Bryła (2016) has highlighted how selected aspects motivate the consumers to consume organic food products in Poland. Selected aspects include healthiness, high quality, and perceived authenticity. The authors find that healthiness and high quality are the most critical attributes determining organic food consumption with quantitative research methods. Also, organic food's authenticity relies on taste, product quality, labeling, and purchase place. Moreover, organic food consumption barriers are high prices, low awareness of products, less product availability, short expiry dates, and low visibility in the shop. Finally, the study concludes that ecological character, food safety, taste, and quality were the primary attributes that induce consumers to select organic food in Poland. However, the author does not recognize how the attributes were chosen for the research, and it considers the attributes useful for the outcome of the study. Also, another weakness of the study is that there is no explanation on theory supports to get an outcome for quantitative research methods.

Lee et al. (2015) mention that the consumer motivates organic consumption backed up with the theory of planned behavior approach. The study was conducted in South Korea; the nature of the study was quantitative research methods. It provides an outcome that health and environmental protection were the primary attributes to consume organic food products. Moreover, environmental concern was used to predict the behaviour of consumers. Ethical concern and price sensitivity were the moderating variables that help to determine the purchasing behaviour. However, the study focuses more on planned behaviour theory than explaining motivations for organic food consumption in South Korea.

Wang et al. (2015) point out how determinants play a key role in influencing consumer choice in Europe. Also, the study finds out an association between motives, attitudes, and purchase intention. The study utilized the food choice

motives model to find out the outcome for the research concern. The study is keen on assessing six attributes: health, time-saving, sensory appeal, availability, familiarity, and safety. Time-saving had a negative association with attitude and purchase intention of organic food. Sensory appeal, availability, and food safety had a positive association with the attitudes. Also, the most driving attribute of consumers for traditional and organic food is mood. However, the study's main weakness is how the authors used a food choice motive model to determine consumer motives. Unfortunately, it neglects to explain the reason behind choosing the model and how it supports the outcome.

Hasselbach and Roosen (2015) draw more attention to recognize the consumer food choice motives of organic food and local food. It measures quantitative research methods and uses health, natural content, animal welfare, price, and sensory appeal. The findings of the study show that natural content and animal welfare were the primary attributes that determine the food choice motives. Sensory appeal and price were the least attributes of food choice motives. Health and price were the least attributes of food choice motives. The key problem with the study is that it didn't fully explain how the attributes were taken into account.

The above studies clarify that the quantitative research methods could be the most suited approach in assessing the consumer motives of buying organic products. The study could use exploratory factor analysis to assess the dimensionality of items derived from the literature studies. Moreover, Anova can also use to determine how the motives can vary among the groups.

After investigating the motives of organic products, the subsequent studies pinpoint the relationship between demographic profile and the consumption of organic products. Studies have shown that Crammer V could be applied to determine the association between demographic attributes and knowledge of consuming organic products (Thambiah et al., 2015). The outcome of the study portrayed that no association existed between male and female customers. Baranauskas et al. (2015) showed that the Cramer V test was the best test to assess the consumption of organic products with gender and income. The study found that gender and consumption of organic products had a weak association. Also, moderate strength of association existed between income and consumption of organic products. However, the other

study had pointed out that age, education, income, and consumption of organic products had a positive association with it (Kiss et al., 2020). The studies observe that demographic attributes can evaluate with the consumption of organic products through Cramer v test, which helps determine the association between the attributes.

Mkhize and Ellis (2020) Mention the barriers to organic consumption in South Africa. With the help of qualitative research methods, the study observed that organic products' awareness was not regular consumers. Participants were more concerned about the organic products, particularly due to the environment that did not consume the products. Moreover, participants had a positive attitude only because of price, availability, and labeling, not because of family and friends. Overall, the study found that the consumption was low and incomplete in recognizing the barriers of organic consumption. Finally, the study concluded that communicating the benefits of the products through initiatives can increase trust among consumers. Also, having an effective communication strategy can overcome the barriers to consuming organic products in South Africa. However, the researcher observes no specific information on how the study portraying incomplete information on barriers exists in consuming organic products. Also, the researcher observes that the strength of the study is that precisely explaining the importance of attributes influencing the consumers to use the products. There is no influence acquired from sources of friends or colleagues. The study would be more interesting than how barriers vary among the gender of respondents.

Ham et al. (2016) Has stated in the study that the primary barriers exist in consuming organic products. With the help of quantitative research methods, the study has considered the barriers as time, knowledge, and cost barriers. In addition, a negative attitude is also taken into account based on the theory of planned behavior. The study found the outcome that there were 52.9% of barriers existed in purchasing organic food products. Also, all the barriers harmed the intention to purchase the products out of four barriers; negative attitude was considered the primary barrier to purchasing organic products. Consequently, the study concluded that barriers have to be minimized or eliminated by taking consistent marketing actions. The action stimulates the respondents to buy organic products in Croatia. The researcher observes that barriers play a key role in influencing the consumers to have organic products from the study. Also, the strength of the study is that utilizing quantitative

research methods to derive out the most predominant barriers of consuming organic products. However, the authors keen on considering negative attitudes as one of the predominant barriers of the study. Other barriers did not have a detailed explanation on how they influence the intention to purchase products. Also, the main weakness of utilizing the theory of planned behavior is that it assisted in predicting future behavior. But the study is keen on investigating the barriers, and the theory is quite contradictory to utilize in the present study. Apart from the above aspects, one of the significant drawbacks is using a meager amount of samples from a huge Croatian population. Hence, it isn't easy to accept the outcome could be representative of the whole population.

Jose Torres-Ruiz et al. (2018) Has pointed out in the study that how the barriers limit the purchases of organic products in Spain. The author adopted quantitative research methods, a survey of users living in Spain, and accounted for. The study found the outcome with the help of one-way ANOVA that difficulties vary among groups. Difficulties presented in organic product consumption affected the purchase behavior of consumers. Finally, the study concluded with the implications that labeling the word organic is not valued or appreciated by consumers. It also promoted awareness among non-users to use organic products to increase the demand for Spanish products. The researcher finds the strength of the study is that utilizing one-way ANOVA to differentiate the difficulties of the groups in an effective way. A detailed explanation of methodological aspects in a convincing way. However, the analysis made it general, and it did not account for the theory; hence, it's quite difficult to correlate the outcome with the theoretical perspective.

Erasmus et al. (2020) Has pointed out in the study that barriers relating to organic products in South Africa. With the help of quantitative assessment, the study classified consumers as regular, occasional, and non-organic users. The study found that high cost and lack of availability were the primary determinants that influenced consumers to have organic products. However, the major motives of the consumers to have the products be environmentally friendly and healthy. From the study, the researcher observes that the predominant barriers have been taken into account. The strength of the study is the effective assessment of barriers and motives using quantitative research methods. A simple explanation of barriers with percentage specified on it could pave the way to find out the highest constraints of consumers in

consuming organic products. However, the researcher observes that the authors failed to differentiate how barriers vary among groups.

As per the earlier works of the above-stated authors, the study observes that the most suited methodology to assess barriers in consuming organic products is quantitative research methods. Also, the researcher observes that the effective methods to assess barriers for the item showed differences through One-way Anova. Therefore, the same method has applied in the study.

Research gap

The researcher observes that the studies were already done on evaluating motives and barriers of organic products in India from the comprehensive literature support. However, no studies focus on assessing market demand while evaluating motives and barriers in organic products. In light of this reason, the study has identified a research gap that needs further investigation. As per the in-depth analysis of literature support, the researcher identifies that no studies focus on identifying the prospects and finding ways to improve the market demand of individual organic products in India. The present study intends to bridge the gap.

CHAPTER-III

RESEARCH METHODOLOGY

3. RESEARCH METHODOLOGY

This section demonstrates how to implement the researcher's techniques and methods for discovering the answers to the research questions presented in the introduction chapter. The chapter opens with a discussion of research design, followed by sections on population and sample, sampling strategy, data collection techniques, and analysis tools. In the section that comes next, the research methods used in the study are acknowledged and looked at in detail.

RESEARCH DESIGN

The research design is the framework that encompasses and integrates all of the study elements. It includes a concise summary of the research problem, procedures and techniques for data collection, the population under study, and methodologies for data processing and analysis. The descriptive research design is suitable for the study. Also known as statistical research, the major objective of descriptive research design is to illustrate the needs of a particular group or situation. It also provides answers to questions like who, what, when, where, and how. Additionally, it is related to a greater number of naturally occurring events

SAMPLES

Malhotra & Birks (2006) suggest that sampling is an essential part of any research project. It defines the census as "a comprehensive list of population elements or study items," of which the survey is "a sub-group of population elements selected for inclusion in the analysis." Samples derive from organic products, followed by assembling, retailers, and suppliers from India. The researcher gets clear and robust evidence from the study Shahbaz (2018), which supports the samples in the study

POPULATION

Malhotra & Birks (2006) emphasizes the importance of a robust and explicit definition of the target population. Malhotra & Birks (2006) points out that the projected target population could, at best, lead to a confounding and ineffective

study. The study considers the population to be consumers using organic products in India.

SAMPLING TECHNIQUE

The sampling method is a comprehensive review of all occurrences in the population sample. The non-probability sampling method is used if a complete, adequate sampling system is not available. The probability of any cases being included in the sample cannot be specified. There is no access to this sampling system in this analysis. The probability that the population selects each case is unknown, which justifies using the non-probability sample strategy. Samples based on a subjective decision can be chosen using a non-probability sampling technique.

SAMPLE SIZE

The study considers the sample size to be 300, with a 5% confidence interval. The target area that helps to derive the sample is India, which has the highest organic products.

DATA SOURCES

Primary data and secondary data are the two forms of data. The term "primary data" refers to data collected for the first time for research. It is safe to collect such fundamental data. On the other hand, secondary data has already been collected and organized, and the researcher uses data from past studies and other sources. To validate the data, the current study uses primary data for the first time to collect respondents' thoughts on motivating the consumers towards organic products and the impact of covid-19 on consumer's demand for organic products in India. The researcher contacted a consumers using organic products in India. The researcher contacts each responder individually and obtains prior agreement from each. The researcher created the questionnaire in Google Forms, and URLs were given to all approved respondents. Respondents completed the questionnaire willingly.

QUESTIONNAIRE

In this study, data will be gathered by asking respondents questions. This study will employ an online interview method in which questions will be given directly to the respondents. This study will also make use of questionnaires. The formal list of

questions is intended to elicit comments from respondents on a specific topic. Structured questionnaires will be used in this investigation. The structured questionnaire will use the Likert scale, Yes/No, and multiple-choice items. Five scale points will be used in this Likert scale. SPSS is used to analyze the data from the questionnaire survey.

TOOLS FOR ANALYSIS

- Percentage analysis
- Descriptive statistics
- One-way ANOVA
- Paired sample t-test
- Crammer v test

CHAPTER-IV

ANALYSIS, DISCUSSION, AND RECOMMENDATIONS

4. ANALYSIS, DISCUSSION, AND RECOMMENDATIONS

4.1.INTRODUCTION

In the presentation of results, the study measures the respondent's opinion, which gathers from web survey, describes the data, fix hypothesis, and interprets the outcome with the help of statistical tools. As described in the previous section, the study incorporates frequency distribution, descriptive statistics, one-way ANOVA, paired sample t-test, crammer v test, and factor analysis. Moreover, the study evaluates the secondary data gathered from the Ministry of statistics and implementation through trend analysis and compound annual growth rate. Finally, all the analysis is described in detail

4.2.DATA COLLECTION

In this study, data collection is an essential and significant subject of research. The data collected for research purposes must provide an overview of the search field to draw a definitive conclusion. The data collected during the quest must also be accurate and managed through the approved tools. Saunders et al. discuss the various types of methods that can use to gather information. Sampling, observation, interviews, questionnaires, and secondary data are all methods used.

4.3.DATA ANALYSIS

The demographic profile of respondents contains information relating to age, gender, education qualification, occupation, income, and marital status. Also, the study presents the results relating to sources of information about organic products and the influence of the attributes to consume the organic products. Finally, all the aspects measure using frequency distribution; the outcome of the frequency distribution presents in the form of tables and graphs.

Table 4. 1: Demographic profile of respondents

Particulars		Frequency	Percent
Age	21-23 years	96	32.0
	24-26 years	168	56.0
	Above 26 years	36	12.0
Gender	Male	252	84.0
	Female	48	16.0
Education qualification	Secondary school education	48	16.0
	Graduates	192	64.0
	Postgraduates	60	20.0
Occupation	Skilled worker	60	20.0
	Employee	48	16.0
	Student	192	64.0
Income	Below 10000	180	60.0
	10000-20000	72	24.0
	Above 20000	48	16.0
Marital status	Married	36	12.0
	Unmarried	264	88.0
Know about organic products	Family	72	24.0
	Friends or colleagues	228	76.0
Influence of the attributes to consume organic products	Health	252	84.0
	Natural content	48	16.0
Total		300	100.0

Source: Own calculation

Age: From the table, it has been observed that 32% of respondents belong to the age categories of 21-23 years, followed by 56% of respondents belong to the age categories of 24-26 years, and the remaining 12% are above 26 years of age. It is then evident that most of the respondents who participated in the survey are belong to the age categories of 23-26 years

Gender: Out of 50 respondents, it reveals that 42 (84%) respondents who participated in the study were male, and 8(16%) were female respondents. Hence, it is found that the majority of respondents were male.

Education qualification: According to the table above, the education qualification includes secondary school education, graduates, and postgraduates. It has been found that 16% of respondents are studied up to only secondary school education, followed by 64% have completed their studies up to graduates, and 20% are holding their postgraduates degrees. Therefore, it is concluded that the maximum number of respondents who participated in the study having their graduate degrees.

Occupation: From the table above, it is found that 20% of respondents are skilled worker, followed by 16% of respondents are working as an employee, and 64% of respondents are students. Hence, it concludes that most of the respondents participated in the study are a student.

Income: It was found from the table above that 60% of respondents are earned below INR 10000 per month, while 24% of respondents have earned between INR 10000 and 20000, and the remaining 16% are earning above INR 20000. Thus, it is inferred that the highest number of respondents are earning below INR 10000 per month.

Marital status: According to the table, it is inferred that 12% of respondents are married, and the remaining 88% of respondents are unmarried. Hence, it is found that the highest number of respondents are unmarried.

Awareness of organic products: From the table, it was revealed that 24% of respondents are known about the organic product by family, and friends, or colleagues know the remaining 76% of respondents. Thus, it is evident that most of the respondents are known about the organic product by friends or colleagues.

Influence of the attributes to consume organic products: The table above depicts that 84% of respondents consume organic products for health. The remaining 16% of

respondents are consuming organic products for natural content. Therefore, it is inferred that most of the respondents are consume organic products for health.
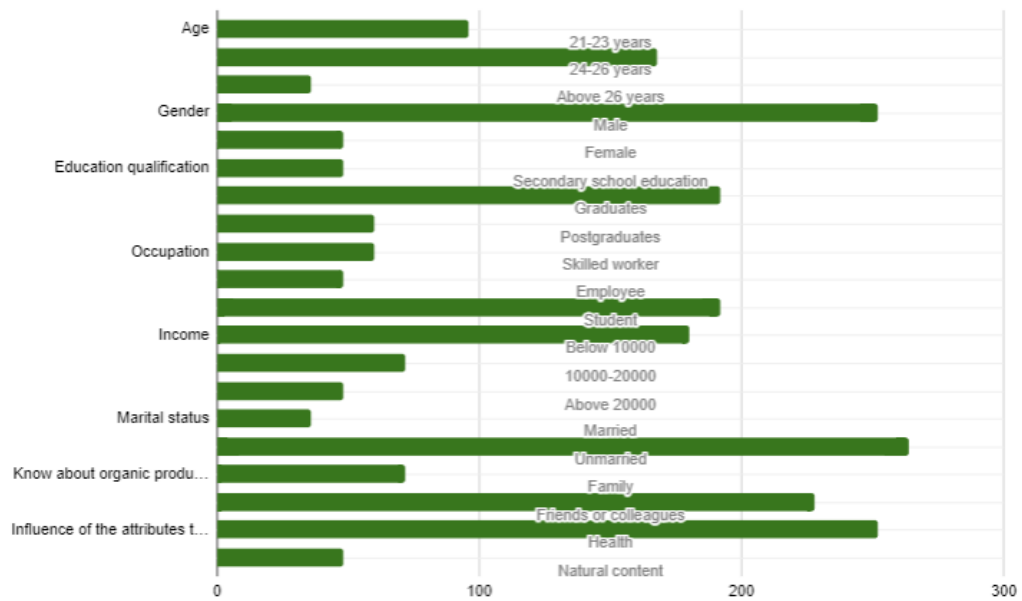

Figure 4 Demographic profile of respondents

Descriptive statistics

This section outlines the descriptive statistics used within this research. The primary intention of using descriptive statistics is to organize data; to determine the relationship between the variables in a sample (Kaur et al., 2018). Mean is the ratio among the sum of observation and number of observations. However, standard deviation uses to determine the disparity between the calculated mean (Ayeni Adebanji, n.d). A detailed analysis of descriptive statistics is given in the below table

Table 4.2: Consumption of organic products

Particulars	Percent	Mean	SD
Fiber crops	13.3	3.2800	1.52583
Cereals and millets	15.8	3.8800	1.83659
Pulses	18.9	4.6400	1.58771
Dry fruits	18.7	4.6000	1.51186
Vegetables	16.6	4.0800	1.58874
Spices and condiments	16.7	4.1200	2.02676

Source: Own calculation

The study considers fiber crops, cereals and millets, pulses, dry fruits, vegetables and spices, and condiments are organic products. The highest consumption observes in Pulses (18.9%), whereas the least consumption is in Fiber crops (13.3%). Moderate consumption of organic products observes in cereals and millets (15.8%), dry fruits (18.7%), vegetables (16.6%), and spices and condiments (16.7%). The average mean value of consumption of organic products lies from 3.2 to 4.64; the highest mean value is in pulses, whereas less value is in fiber crops. The standard deviation of consumption of organic products is high in spices and condiments (2.02); SD scores represent that the values are apart from the mean. However, the less standard deviation is in dry fruits 1.51, representing that the values are closer to the mean. Therefore, it concludes that the consumption of organic products is high in dry fruits.
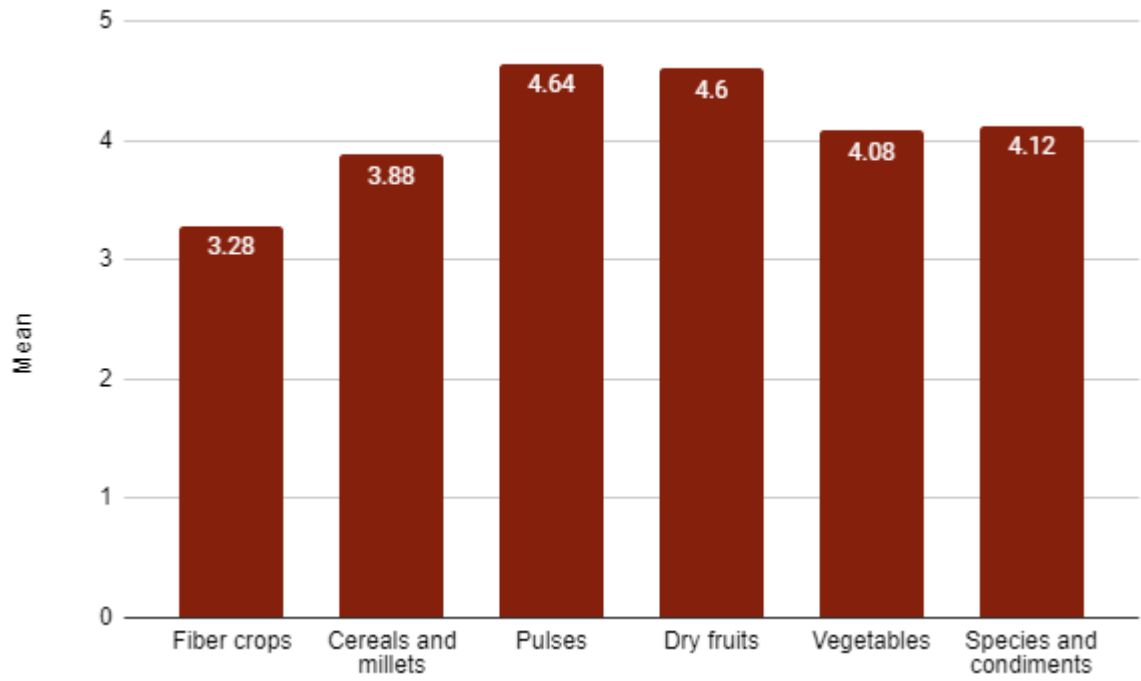
Figure 5 Consumption of organic products

Table 4. 3: Frequency of buying organic products

Particulars	Percent	Mean	SD
Fiber crops	17.4	2.2000	1.10657
Cereals and millets	15.8	2.0000	1.10657
Pulses	15.2	1.9200	.85332
Dry fruits	16.5	2.0800	1.06599
Vegetables	14.6	1.8400	.79179
Spices and condiments	20.6	2.6000	.94761

Source: Own calculation

From the table, it is clear that the frequency of buying organic products of spicies and condiments is 20.6% which indicates a very high percentage, moderate in cereals and millets (15.8%) and pulses (15.2%) and less in vegetables (14.6%). The average mean value of buying frequency lies between 1.84 and 2.6; the scores are very minimum, indicating that buying products may vary between respondents. It may be either once a week or fortnight, or monthly. The highest mean value is 2.6 for spices and condiments weekly, whereas less is for vegetables (1.84), representing fortnight frequency. However, the standard deviation is high in dry fruits (1.06); the scores indicate that the values are apart from the mean. Moreover, less standard deviation observes in vegetables 0.79, which indicates that the values are closer to the mean. Thus, it concludes that the frequency of buying organic products is high in vegetables and low in dry fruits.
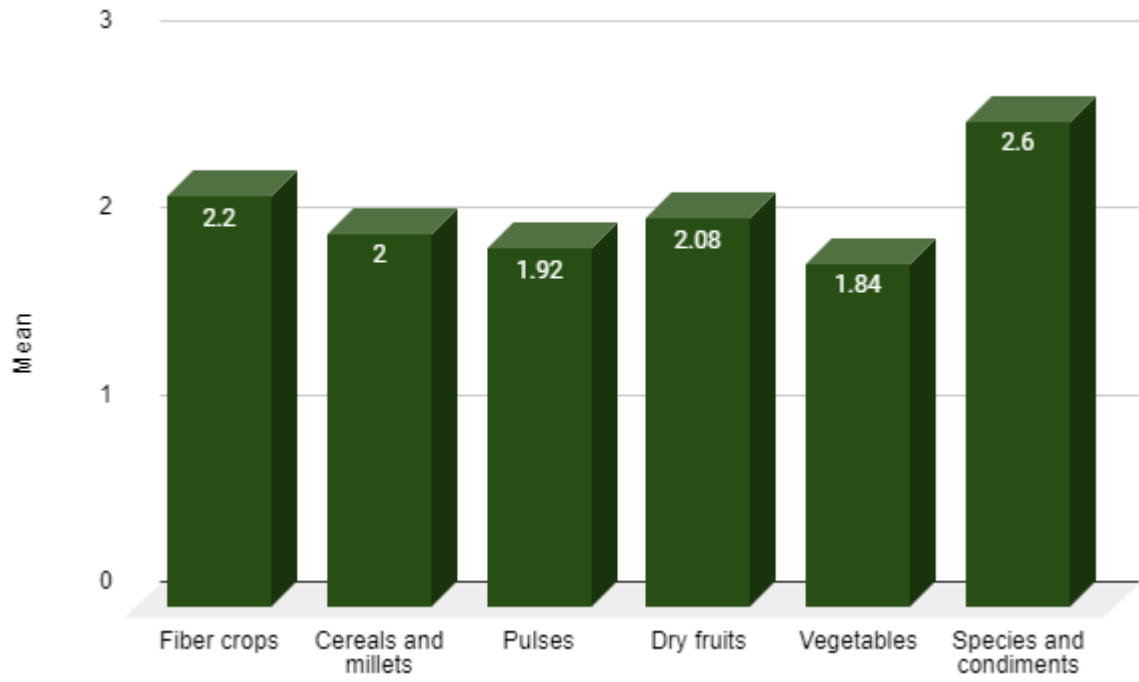
Figure 6 Descriptive statistics for consumers buying an organic product

Table 4.4: Places of buying organic products

Particulars	Percent	Mean	SD
Fiber crops	17.5	3.4800	1.03490
Cereals and millets	16.9	3.3600	1.17387
Pulses	13.7	2.7200	1.47136
Dry fruits	16.5	3.2800	1.41479
Vegetables	18.1	3.6000	1.03016
Spices and condiments	17.5	3.4800	1.11098

Source: Own calculation

The study evaluates in which place the respondents procure organic products. It includes the places to be an organic market, directly from producers, the internet, special organic stores, etc. From the above analysis, it is clear that the highest percentage observes in vegetables (18.1%), moderate in cereals and millets (16.9%) and dry fruits (16.5%), and less in pulses (13.7%). The average mean value lies from 2.72 to 3.6, which indicates that the scores are very minimum. Most of the respondents procure organic products through the internet and special organic store. The highest mean value observes 3.6, indicating vegetables; the respondents procure them from a special organic store. The least mean value is 2.72 for pulses which can be procured through the internet. The standard deviation is high in pulses 1.47; the scores are apart from the mean, whereas less value is 1.030 indicates vegetables closer to mean. Therefore, it concludes that the most predominant organic products are vegetables that can be procured through organic stores.
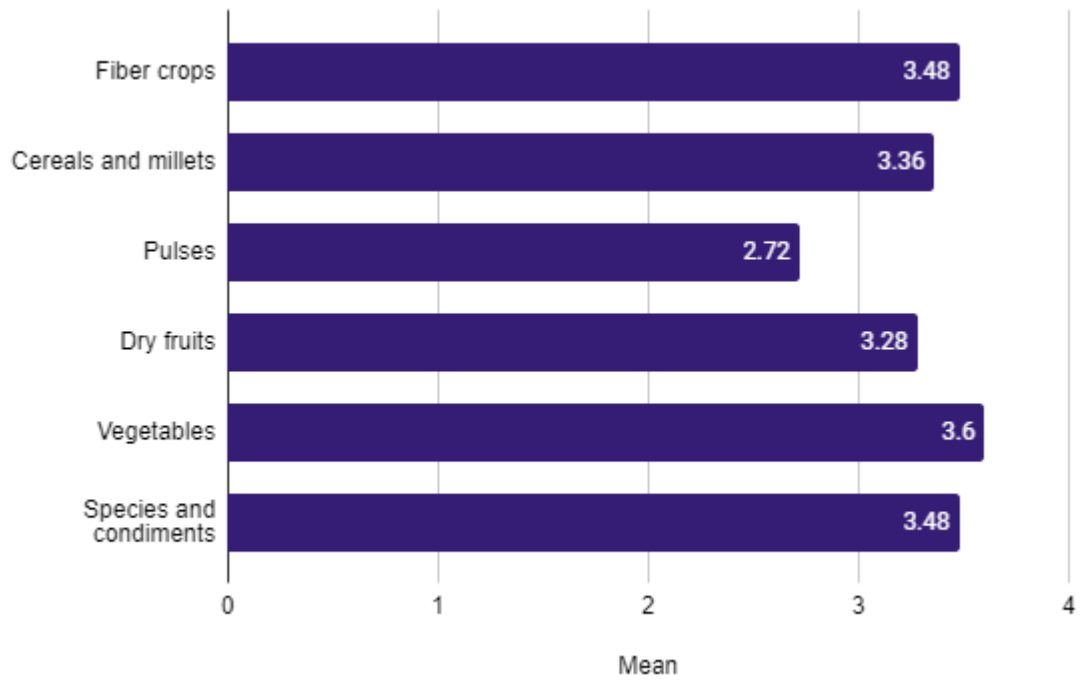
Figure 7 Places of buying organic Products

Table 4. 5: Attributes inducing to consume organic products

Particulars	Percent	Mean	SD
Organic products have many vitamins and minerals	5.6	6.2800	.67128
Organic products are nutrition's	5.4	6.0800	.63374
Organic products have proteins	5.4	6.0800	.89989
Organic products are suitable for appearance	5.4	6.1200	.59385
Organic product have fiber content	5.2	5.8400	1.01740
It keeps me healthy	5.6	6.3200	.74066
Organic products contain no additives	5.3	5.9200	.98644
Organic products contain natural ingredients	5.3	5.9600	.83201
Organic products contain no artificial ingredients	5.7	6.4000	.49487
Organic products produced with sufficient freedom of movement for animals	5.3	6.0000	.80812
Organic products are animal friendly	5.0	5.6000	1.06904
Organic products produced via free-range	5.3	6.0000	.80812
Organic products are good value for money	5.0	5.6000	.98974
Organic products are not expensive	4.9	5.5600	1.28031
Organic products are cheap	4.8	5.4400	1.34255
Organic products smell nice	5.4	6.0400	.92494
Organic products look nice	5.0	5.6000	1.06904
Organic products have a pleasant texture	5.3	6.0000	.69985
Organic products taste good	5.1	5.7600	1.04119

Source: Own calculation

The study measures the attributes of consuming organic products: health, natural content, animal welfare, price, and sensory appeal. All the aspects measures

with the help of a seven-point Likert scale. The outcome of the statements is described in detail.

Health can be evaluated using six statements. The highest percentage is 5.6, which indicates that organic products have vitamins and minerals & helps the respondents to be healthy. However, less percentage is 5.2, which indicates the statement that organic products have fiber content. The average value of health lies between 5.84- 6.32; values are minimum; the highest value indicates that organic products help keep healthy, whereas the least indicates that organic products have high fiber content. The standard deviation is high 1.01 for the statement having high fiber content; it indicates that the scores are apart from the mean. The less standard deviation is 0.59, which indicates that having an organic product is suitable for appearance; the statement has values closer to the mean. Therefore, it concludes that the organic products are suitable for appearance, having more accuracy in portraying health aspects than other statements.

Natural content assesses through three statements. The highest percentage is 5.7 for the statement indicating that organic products have no artificial ingredients. However, less percentage is 5.2, representing that organic products contain no additives; have natural ingredients. Consequently, the average mean value of natural content is between 5.92 and 6.4; the highest mean value indicates that organic products have no artificial ingredients and less mean represents that organic products contain no additives. The standard deviation of natural content is high (0.98), which indicates that the S.D scores are apart from the mean. However, less S.D scores is 0.49 that represents that organic products have no artificial ingredients. The lesser S.D scores indicate that the above statement is closer to the mean. Therefore, it concludes that natural content portraying the statement that organic products have no artificial ingredients has more accuracy than others.

Animal welfare evaluates with the help of three statements. The percentage is higher (5.3%) for the statements, namely organic products produced with sufficient freedom of movement for animals and organic products produced via free-range. The lesser percentage of animal welfare is 5%, indicating that organic products are animal friendly. Also, the average mean of animal welfare lies between 5.6 and 6; the scores are high. The highest mean value is 5.6, indicating that organic products

are animal friendly. However, the less mean value is 6, representing two statements: organic products produced with sufficient freedom of movement for animals and organic products produced via free-range. However, the highest standard deviation of animal welfare is 1.06, which represents that organic products are animal friendly; the high value indicates that the values are apart from the mean. Subsequently, the lesser standard deviation is 0.80, indicating that the values are closer to the mean for two statements, namely organic products produced with sufficient freedom of movement for animals and organic products produced via free-range. Therefore, it concludes that animal welfare has high precision through organic products produced with sufficient freedom of movement for animals and organic products produced via free-range.

The price of organic products evaluates through three statements. The percentage is higher (5%), indicating that organic products are a good value of money. The lesser percentage is 4.9% for the statement that organic products are not expensive. The average value of prices ranges from 5.4 to 5.6; the scores are high. The highest mean value is 5.4, indicating that organic products are cheap, whereas the least value is 5.6 for the statement that organic products are a good value of money. However, the standard deviation is high (1.34), indicating that organic products are cheap. The highest S.D scores represent that the values are apart from the mean. The less standard deviation is 0.98 represents that organic products are a good value of money. Less S.D scores represent that the values are closer to the mean. Therefore, it concludes that Organic products are a good value of money have high precision in portraying the price of organic products.

Sensory appeal measures through four statements. Organic products smell pleasant secure high (5.4%) whereas lesser value is (5%), indicating that organic products look nice. The average mean value of sensory appeal lies between 5.6-6.04; the scores are high. The highest mean value is 6.04 represents that the organic products smell nice. The lesser mean value is 6.04 indicates that organic products smell nice. However, the standard deviation is high (1.06) for the statement that organic products smell nice, whereas less S.D score is 0.69 for the statement that organic products have a pleasant texture. Highest S.D indicates that the values are apart from the mean, whereas less S.D represents that the values are closer to the mean.
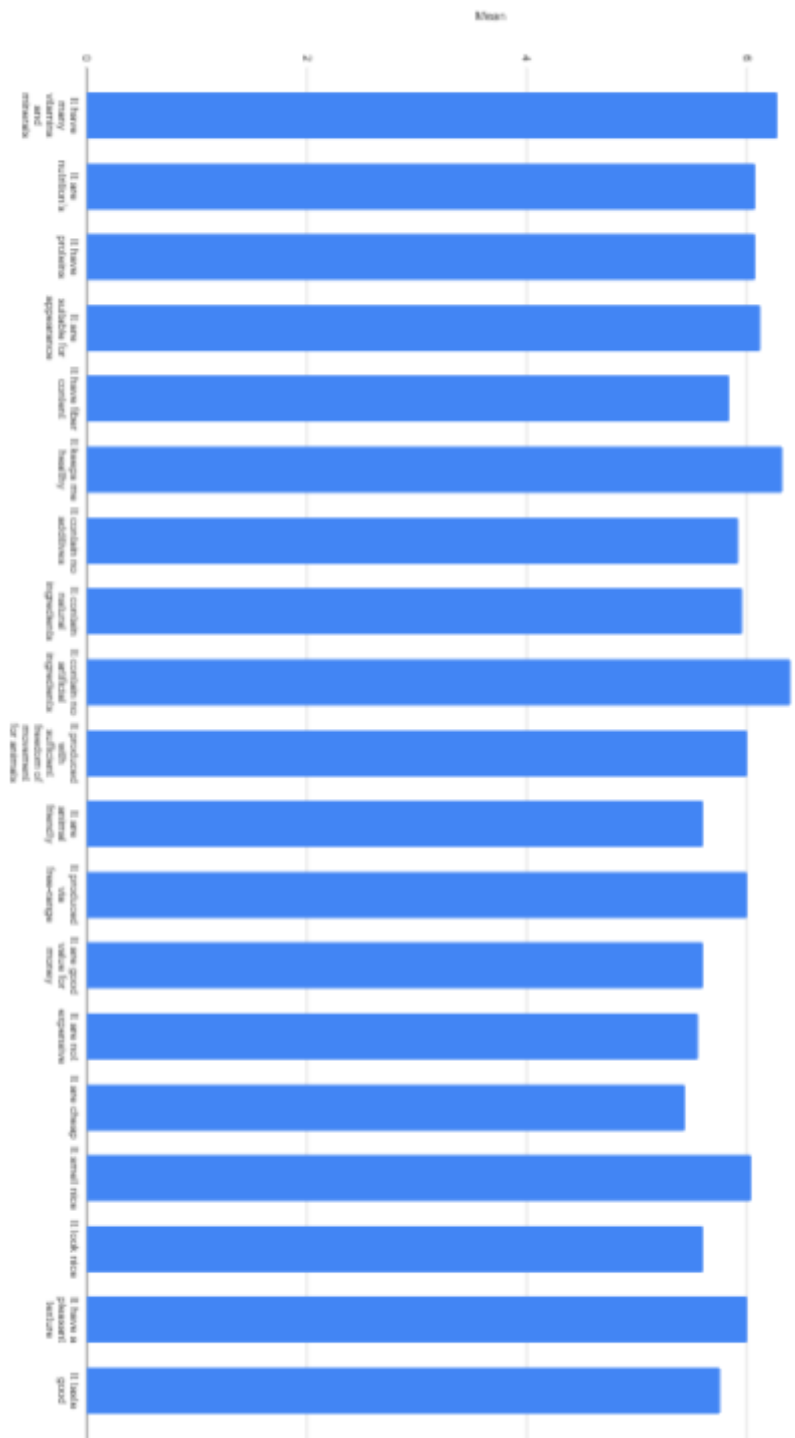
Figure 8 Descriptive statistics for a level of agreement

Table 4.6: Barriers to buying organic products during the Covid situation

Particulars	Percent	Mean	SD
The high price of organic products	24.6	5.8800	1.57325
Insufficient consumer knowledge	18.4	4.4000	1.53862
Low availability of products	19.6	4.6800	1.93190
Short expiry dates	15.7	3.7600	1.57221
Low visibility of products in the point of scale	21.6	5.1600	1.53011

Source: Own calculation

The study measures the barriers face while buying organic products during the Covid situation using a seven-point Likert scale. Respondents of 24.6% stated that the high price of organic products is the highest barrier for them. The moderate barrier stated by respondents is insufficient consumer knowledge (18.4%), and the least barrier is short expiry dates (15.7%). The average mean value of barriers lies between 3.7 and 5.8; the values are minimum. The highest mean value is 5.8, which indicates that the high prices of the organic product have the foremost barrier for the respondents. The least mean value is 3.7, which indicates the short expiry dates. However, the standard deviation of barriers ranges from 1.53-1.93. The least standard deviation is 1.53, representing that low visibility of products have mean values closer to mean. The highest standard deviation is 1.93, which indicates that the values are apart from the mean. Therefore, it concludes that the major barrier of organic products is the low visibility of products during the Covid situation.
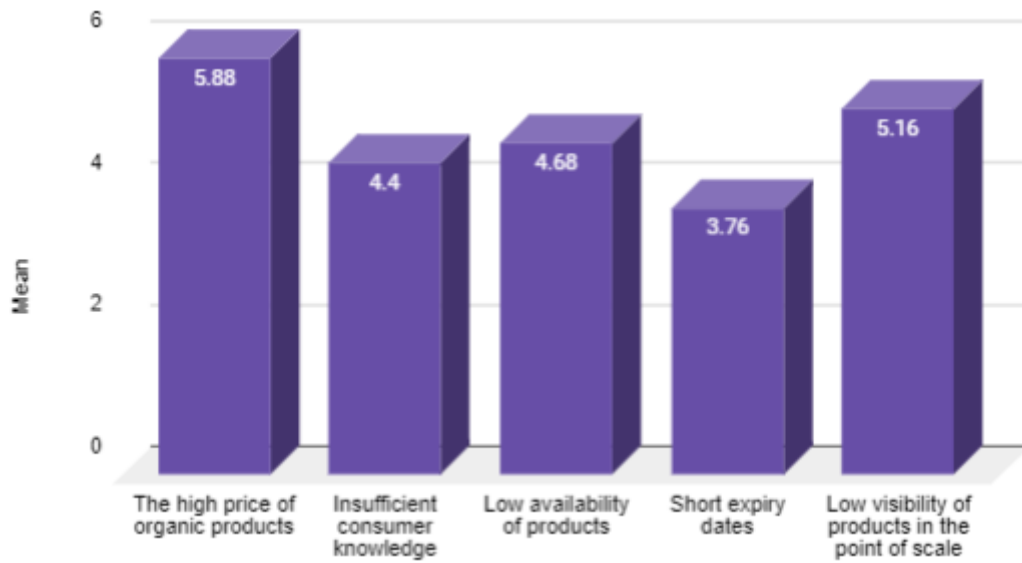
Figure 9 Descriptive statistics for barriers face while buying organic products during the Covid situation

One-way ANOVA

One-way ANOVA uses to determine how the differences exist between the selected organic products. Organic products of the study include fiber crops, cereals, millets, pulses, dry fruits, vegetables, and Spices & condiments. A detailed analysis is presented in detail.

Table 4.7: To determine the difference in consumption of organic product based on health attributes

Particulars	F-value	Sig
Fiber crops	31.492	.000
Cereals and millets	28.418	.000
Pulses	4.626	.003
Dry fruits	11.436	.000
Vegetables	4.992	.002
Spices and condiments	33.269	.000

Source: Own calculation

H_0: Consumption of organic products differs based on health attributes

From the table, it is observed that the F-value of fiber crops is 31.492, Cereals and millets have 28.418, Pulses have 4.626, Dry fruits have 11.436, Vegetables have 4.992, and Spices and condiments have 33.269, and the significance value is lesser than 5% respectively. Hence it concludes that consumption of organic products differs based on health attributes.

Table 4.8 : To determine the difference in consumption of organic product based on natural content

Particulars	F-value	Sig
Fiber crops	21.922	.000
Cereals and millets	31.810	.000
Pulses	8.303	.000
Dry fruits	10.222	.000
Vegetables	3.856	.009
Spices and condiments	21.903	.000

Source: Own calculation

H_1: Consumption of organic products differs based on natural content attributes

The table above shows that the F-value of fiber crops is 21.922, Cereals and millets have 31.810, Pulses have 8.303, Dry fruits have 10.222, Vegetables have 3.856, and Spices and condiments have 21.903. The level of significant value is less than 5%, respectively. Thus it is evident that there is a significant difference in the consumption of organic products on natural content.

Table 4.9: To determine the difference in consumption of organic product based on animal welfare attributes

Particulars	F-value	Sig
Fiber crops	3.711	.018
Cereals and millets	191.377	.000
Pulses	29.550	.000
Dry fruits	11.510	.000
Vegetables	5.646	.001
Spices and condiments	12.763	.000

Source: Own calculation

H_2: Consumption of organic products differs based on animal welfare attributes

It finds from the table that the F-value of fiber crops is 3.711, Cereals and millets have 191.377, Pulses have 29.550, Dry fruits have 11.510, Vegetables have 5.646, and Spices and condiments have 12.763, and the p-value is less than 5% respectively. Therefore it is concluded that consumption of organic products differs based on animal welfare attributes.

Table 4.10 : To determine the difference in consumption of organic product based on price & sensory appeal attributes

Particulars	F-value	Sig
Fiber crops	3.460	.024
Cereals and millets	192.235	.000
Pulses	3.244	.020
Dry fruits	16.437	.000
Vegetables	13.593	.000
Spices and condiments	26.167	.000

Source: Own calculation

H_3: Consumption of organic products differs based on price and sensory appeal attributes

It was found from the table that the F-value of fiber crops is 3.460 (0.024), Cereals and millets have 192.235 (0.000), Pulses has 3.244 (0.020), Dry fruits have 16.437 (0.000), Vegetables has 13.593 (0.000), and Spices and condiments has 26.167 (0.000) and ($p<5\%$) respectively. Hence it is concluded that consumption of organic products differs based on price and sensory appeal attributes.

Table 4.11: To determine the differences of barriers that exist in consuming organic products during the Covid situation

Particulars	F-value	Sig
Fiber crops	9.488	.000
Cereals and millets	20.902	.000
Pulses	49.158	.000
Dry fruits	37.202	.000
Vegetables	43.074	.000
Spices and condiments	7.638	.000

Source: Own calculation

H_5: Barriers exists in consuming organic products, which vary among clusters during the Covid situation

It was observed from the table that the F-value of fiber crops is 9.488 (0.000), Cereals and millets have 20.902 (0.000), Pulses has 49.158 (0.000), Dry fruits have 37.202 (0.000), Vegetables has 43.074 (0.000), and Spices and condiments has 7.638 (0.000) and ($p < 5\%$) respectively. Thus it is inferred that barriers exist in consuming organic products vary among clusters during the Covid situation.

Henry Garett Ranking method

Table 4.12: Ranking the organic product

Particulars	Mean	Rank
Fiber crops	17.11	1
Cereals and millets	15.24	2
Pulses	13.22	6
Dry fruits	13.46	5
Vegetables	15.02	3
Spices and condiments	14.66	4

Source: Own calculation

It finds from the table that fiber crops have the highest mean value (17.11), which indicates rank I, 15.24 mean value is the second-highest value which secures rank II, vegetables have secured mean value of 15.02, which indicates rank III, the mean value of 14.66 indicates spices and condiments that represents rank IV, dry fruits have a mean value of 13.46 which represents rank V and pulses have a mean value of 13.22 which indicates rank VI. Thus, it concludes that most respondents give the highest rank for fiber crops and the least rank for pulses.

Strength of association between the variables

In this section, the method used is Crammer V, which directs to assess the strength of association between the variables. Variables of the section include demographic profile and the influence of respondents to consume the organic products. The demographic profile includes age, gender, education, occupation, and income. A fuller discussion of the association of variables is directed to a subsequent table.

Table 4.13: Cramer V used to determine the strength between the demographic profile and influence to consume the organic product

Particulars	Cramer V value	Sig	Strength
Age	0.208	0.001	Moderate
Gender	0.190	0.001	Weak
Education	0.588	0.000	High
Occupation	0.327	0.000	Moderate
Income	0.356	0.000	Moderate

Source: Own calculation

H_0: Age has an association with the consumption of organic products

It infers from the table that the Cramer V value of age has 0.208, and the p-value is 0.001($p<0.05$). Hence, it concludes that age has a positive association with organic product consumption. Also, it has a moderate strength of association between the variables, and it is statistically significant.

H_1: Gender has an association with the consumption of organic products

The table above shows that the value of Cramer V is 0.190, and the significance value is 0.001 ($p<5\%$), respectively. It is then concluded that there is an association between the genders and consume the organic product. Although the outcome is statistically significant, and it is weakly associated with the variables.

H_2: Education has an association with the consumption of organic products

The table found that the Cramer V value of education has 0.588 and the p-value is less than 5%, respectively. Therefore, it is inferred that education has a high strength of association with organic product consumption. Also, the outcome is statistically significant.

H_3: Occupation has an association with the consumption of organic products

The table above shows that the value of Cramer V has 0.327 and the p-value is lesser than 5%, respectively. Thus, it is inferred that there is an association between the occupation and consumption the organic product. Also, it has a moderate strength of association between the variables, and it is statistically significant.

H_4: Income has an association with the consumption of organic products

It has been evident from the table that the Cramer V value of income has 0.356, and the p-value is 0.000. Hence, it concludes that income has a positive association with organic product consumption. Also, it has a moderate strength of association between the variables, and it is statistically significant.

Finally, the analysis has been demonstrated that age, gender, education qualification, occupation, and income have an association with the consumption of organic products. Education is having a high strength of association with the consumption of organic products. Consequently, moderate strength was observed between age, occupation, income, and consumption of products. On the other hand, gender has a weak strength of association with the consumption of organic products. Also, all the variables are statistically significant.

Paired sample T-test

Table 4. 14: Market demand for selected organic products (pre and post covid)

Particulars	Pre-covid	Post covid
Mean	399.09	413.31
Variance	35532.20	57155.09
df	28	
t Stat	-0.157	
P(T<=t) one-tail	0.438	
t Critical one-tail	1.701	
P(T<=t) two-tail	0.876	
t Critical two-tail	2.048	

Source: Own calculation

H_1: Market demand differs between pre-covid and post covid for the selected organic products

The table above shows that the mean value of pre- Covid is 399.09, and the post- Covid of exports of selected organic products is 413.31. However, the t-value of exports for an organic product is 0.157, and the p-value is higher than 5%, respectively. Hence it is concluded that market demand differs between pre-covid and post-covid for the selected organic products.

Table 4. 15: Market demand for Fiber crops (pre and post covid)

Particulars	Pre-covid	Post covid
Mean	455.25	581
df	3	
t Stat	-1.237	
P(T<=t) one-tail	0.152	
t Critical one-tail	2.353	
P(T<=t) two-tail	0.304	
t Critical two-tail	3.182	

Source: Own calculation

H$_2$: Market demand differs between pre-covid and post covid for Fiber crops

The table shows that the average value of pre-Covid is 455.25, and the post-Covid of fiber crops is 581. Further, the t-value of fiber crops is 1.237, and the significance value is 0.304, which is higher than 5%, respectively. Thus, it can be concluded that market demand did not differ between pre-covid and post covid for fiber crops.

Table 4.16: Market demand for cereals and millets (pre and post covid)

Particulars	Pre-covid	Post covid
Mean	593.347	557.858
df	3	
t Stat	0.264	
P(T<=t) one-tail	0.405	
t Critical one-tail	2.353	
P(T<=t) two-tail	0.809	
t Critical two-tail	3.182	

Source: Own calculation

H_3: Market demand differs between pre-covid and post covid for cereals and millets

The table above reveals that the mean value of pre-Covid has 593.347, and the post-Covid has 557.858. Besides, the t-value of Cereals and millets is 0.264, and the p-value is 0.809 (p>5%), respectively. Thus, it is evident that Market demand did not differ between pre-covid and post covid for cereals and millets

Table 4.17: Market demand for pulses (pre and post covid)

Particulars	Pre-covid	Post covid
Mean	214.498	84.520
df	3	
t Stat	1.703	
P(T<=t) one-tail	0.094	
t Critical one-tail	2.353	
P(T<=t) two-tail	0.187	
t Critical two-tail	3.182	

Source: Own calculation

H4: Market demand differs between pre-covid and post covid for pulses

The table above indicates that the mean value of pre-Covid has 214.498 and the post-Covid has 84.520, and the t-value of pulses is 1.703. However, the level of significant value is 0.187, which is higher than 5%, respectively. Thus, it is found that market demand did not differ between pre-covid and post covid for pulses

Table 4.18: Market demand for dry fruits (pre and post covid)

Particulars	Pre-covid	Post covid
Mean	607.750	711.000
df	3	
t Stat	-0.620	
P(T<=t) one-tail	0.290	
t Critical one-tail	2.353	
P(T<=t) two-tail	0.579	
t Critical two-tail	3.182	

Source: Own calculation

H5: Market demand differs between pre-covid and post covid for dry fruits

The table above shows that the mean value of pre-Covid has 607.750 and the post-Covid has 711, whereas the t-value of dry fruit export has 0.620 and the p-value is 0.579 (p>5%), respectively. It is then inferred that there is no significant difference between the pre-and post-Covid exports of dry fruits.

Table 4.19: Market demand for vegetables (pre and post covid)

Particulars	Pre-covid	Post covid
Mean	326.5	289
df	3	
t Stat	0.645	
P(T<=t) one-tail	0.282	
t Critical one-tail	2.353	
P(T<=t) two-tail	0.565	
t Critical two-tail	3.182	

Source: Own calculation

H$_6$: Market demand differs between pre-covid and post covid for vegetables

The table shows that the average value of pre-Covid has 326.5 and the post-Covid had 289, whereas the t-value of vegetable exports has a difference of 0.645 and the significance value is 0.565 is higher than 5%. As a result, it is found that market demand differs between pre-covid and post covid for vegetables

Table 4.20: Market demand for spices and condiments (pre and post covid)

Particulars	Pre-covid	Post covid
Mean	197.19	256.51
df	3	
t Stat	-1.980	
P(T<=t) one-tail	0.071	
t Critical one-tail	2.353	
P(T<=t) two-tail	0.142	
t Critical two-tail	3.182	

Source: Own calculation

H7: Market demand differs between pre-covid and post covid for Spices and condiments.

The table above indicates that the mean value of pre-Covid has 197.19 and the post-Covid has 256.51, and the t-value of Spices and condiments is 1.980. However, the level of significant value is 0.142, which is higher than 5%, respectively. Thus, it is found that Market demand differs between pre-covid and post covid for Spices and condiments.

Market demand of selected organic products in India

Table 4.21: Market demand for selected organic products in India

Exports	Model Summary					Parameter Estimates			
	R^2	F	df 1	df 2	Sig.	Constant	b1	b2	b3
Fiber crops	0.857	18.217	1	3	0.024	647.4	396.31	165.86	17.833
Cereals and millets	0.008	0.023	1	3	0.888	1517.2	1198.3	424.92	-44.516
Pulses	0.136	0.473	1	3	0.541	851.48	869.92	344	-39.028
Dry fruits	0.032	0.100	1	3	0.772	-235.6	1353.1	-551.96	63.917
Vegetables	0.274	1.131	1	3	0.365	66	385.98	-146.36	15.667
Spices and condiments	0.978	134.733	1	3	0.001	140.29	32.018	5.912	0.839

Source: Own calculation

From the table, it finds that the market demand for selected organic products in India.

Fiber crops have a linear trend curve which fits well because the r square for the products is 0.857. Also, it is significant at a 5% level of significance. Thus, it observes that fiber crops value 396.31 and have a growth of 165.86, which have a midline of 17.833.

Cereals and millets have a linear trend curve which unfit because the r square for the products is 0.008, and the values are not statistically significant. Thus, there is no progression in market demand for cereals and millets in India.

Pulses also assess with the help of a linear trend curve that is unfit because the value of r square is 0.136 and the values (0.541) are higher than the 5% level of significance. Thus, there is no progression in the market demand of pulses in India

Dry fruits have an r-square of 0.032 and a p-value is 0.772, which is higher than the 5% level of significance. Thus, there is no progression in market demand for dry fruits in India

Vegetables have an r square of 0.274 and a p-value is 0.365, which is higher than the 5% level of significance. Thus, there is no growth in the market demand for vegetables in India.

Spices & condiments have an r square of 0.978; the p-value is 0.001, higher than the 5% significance level. Thus, the values are statistically significant. Therefore, it is clear that the growth of spices and condiments is 5.912, with values of 140.29 from India.

To sum up the analysis, the growth of organic products is high in fiber crops and spices condiments.

Compound Annual Growth Rate

Table 4.22: CAGR for exports of selected organic product

Exports	Fiber crops	Cereals and millets	Pulses	Dry fruits	Vegetables	Spices and condiments
2016	397	688.17	255.6	620	315	166.3
2017	384	503.74	137.2	812	403	191.1
2018	457	475.80	179.36	525	292	200.2
2019	583	705.68	285.83	474	296	231.17
2020	581	557.86	84.52	711	289	256.51
CAGR	8%	-4%	-20%	3%	-2%	9%

Source: Own calculation

It observes from the table that the compound annual growth rate of spices and condiments is 9%, fiber crops are 8%, and dry fruits have 3%. However, there is a negative growth rate observes in cereals & millets, pulses, and vegetables. CAGR of cereals and millets is (-4%), pulses is (-20%) and vegetables is (-2%). Therefore, it concludes that the spices and condiments have the highest growth rate whereas less pulses products

4.4.FINDINGS

- Demographic profile of respondents: From the analysis, it is evident that the highest number of respondents were between 23-26 years. Moreover, a maximum number of respondents were male. Graduates' degree respondents have highly participated; the highest number of respondents were students. However, the annual income of respondents was 10000 INR per month. Most of the respondent's marital status is unmarried.

- Regarding organic products, the highest number of respondents comes to know about the products through friends and colleagues. A maximum number of respondents were consumed due to take care of health attributes.

- Organic products of the study were fiber crops, cereals and millets, pulses, dry fruits, vegetables and spices, and condiments. From the analysis, it found that consumption of organic products is high in dry fruits

- The frequency of buying organic products is high in vegetables and low in dry fruits.

- Purchase place: Analysis highlighted that the organic products procured mostly from organic stores (18.1%)

- Health Attributes: organic products are suitable for appearance (5.4%)

- Natural content attributes: organic products have no artificial ingredients (5.7%)

- Animal welfare attributes: organic products produced with sufficient freedom of movement for animals (5.3%) and organic products produced via free-range (5.3%)

- Prices: Organic products are a good value of money (5%)

- Sensory appeal: organic products have a pleasant texture (5.3%)

- Barriers: low visibility of products during the covid situation. (21.6%)

- consumption of organic products differs based on health attributes, and the most valued differences of health are low and moderate.

- Consumption of organic products differs based on natural content attributes, in which the highest differences exist in low and moderate clusters.

- Consumption of organic products differs based on animal welfare attributes, in which the highest differences are in high and moderate clusters.

- Consumption of organic products differs based on price and sensory appeal attributes, and the most valued difference is in moderate clusters.

- Barriers exist in consuming organic products varies among clusters during the covid situation. The highest differences find in the high clusters group.

- Assessing individual products and the consumer choices were assessed through the henry Garett ranking method. It offered an outcome that the highest rank applicable for fiber crops whereas least for pulses.

- With the help of the Cramer V test, it found that age, occupation, and income had a moderate association with the consumption of organic products. Consequently, gender had a weak association with the consumption of organic products. However, a very high association was found between education and consumption of organic products.

After investigating the primary data outcome, the subsequent outcomes indicating the demand for Indian organic products in International markets.

- The secondary analysis observed that the growth of organic products is high in fiber crops and spices and condiments. Moreover, spices and condiments have the highest growth rate whereas less in pulses products

4.5.RECOMMENDATION

Assessing the market situation portrays that the consumers are eager to know the products from the well-wishers (friends and colleagues). Moreover, there is a less amount of advertisements portraying organic products to the public in India. Thus, it is advisable to create an awareness of the benefits of consuming organic products through bill boards, social media, prints, and advertisement characters to induce the consumers more to get into the products. The maximum number of users is between the age category of 24-26 years. To increase the other age categories to use organic products, it is essential to conduct a campaign to provide detailed information regarding content, ingredients, minerals; product use can direct them to choose the right products for health purposes. Organic farmers can produce more products because of the huge prospects available in the Indian market. The Indian market is highly sensitive, so it is advisable to reduce the product prices to get a wide array of organic consumers in the Indian market

CHAPTER-V

CONCLUSION

5. CONCLUSION

The first objective of the study is to identify the attributes motives in consuming organic products. With the help of literature support, the study derives out four constructs, namely health, natural content, animal welfare, and prices & sensory appeal. Consequently, assessment of variables highlights that consumers are giving more importance to natural content attributes primarily to take care of health through products. The maximum number of consumers gets an awareness of products with the help of friends and colleagues. Consumer's frequency of buying organic products is high in vegetables whereas less in dry fruits. All the participated consumers acquire the products mostly from specialized organic stores. After assessing the consumer motives, barriers exist in consuming organic products considers being the second objective. Consumers are facing more barriers owing to the high prices of organic products. Some of the other barriers are insufficient knowledge about the products and the short expiry dates. However, the study's third objective is to analyze the market demand for organic products in Covid-19 in India. There are no differences exists between pre-covid and post covid demand for organic products in India. Also, market demand is high in fiber crops and spices & condiments. Out of the two products, spices and condiments have the highest market demand in India. The study concludes that some products have a huge demand in the Indian market from the above-stated outcome. Therefore, farmers or producers should understand the prospects, develop the products and reap the revenue in the Indian organic market

Scope for further research

Further improvements are expected to results in an improved understanding of consumer motives of organic products. The present quantitative method could be refined by also considering the qualitative research methods to understand the organic product consumers in a better way. Moreover, the researcher finds that there is still room for improvement in assessing consumer motives in-depth. Further study is needed to uncover the other attributes like environment balance, influencers, product information, labels, and certification to improve the outcome even more.

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Questionnaire

1. Age

2. Gender
a. Male
b. Female

3. Education qualification
a. Secondary school education
b. Graduates
c. Postgraduates
d. Others

4. Occupation
a. Skilled worker
b. Employee
c. Student

5. Income

6. Marital status

7. How do you come to know about organic products?
a. Life partner
b. Family
c. Friends or colleagues
d. Television/Talkshow
e. Nutritionists

8. Which of the following products do you consume? (-3 lowest to 3-Highest)

Particulars	-3	-2	-1	0	1	2	3
Fiber crops							

Cereals and millets
Pulses
Dry fruits
Vegetables
Spices and condiments

(Approved products as per APEDA)

9. How often do the consumers buy organic products? (1- Once a week, 2-fortnight,

3-monthly, 4- once a year and 5- two times a year or more than)

Particulars	1	2	3	4	5
Fiber crops					
Cereals and millets					
Pulses					
Dry fruits					
Vegetables					
Spices and condiments					

10. Where do you usually buy organic food? (1- Organic market, 2-Directly from

producers, 3- Internet, 4-special organic store 5- others)

Particulars	1	2	3	4	5
Fiber crops					
Cereals and millets					
Pulses					
Dry fruits					
Vegetables					
Spices and condiments					

11. Which of the influence of the following attributes you to consume organic

products?

a. Health

b. Natural content

c. Animal welfare

d. Price

e. Sensory appeal

12. Rate your agreement with the following statements (1-Strongly agree to (-1)-

Strongly disagree)

Statements	-3	-2	-1	0	3	2	1

Health

Organic products have many vitamins and minerals

Organic products are nutrition's

Organic products have proteins

Organic products are suitable for appearance

Organic product have fiber content

It keeps me healthy

Natural content

Organic products contain no additives

Organic products contain natural ingredients

Organic products contain no artificial ingredients

Animal welfare

Organic products produced with sufficient freedom of
movement for animals

Organic products are animal friendly

Organic products produced via free-range

Price

Organic products are good value for money

Organic products are not expensive

Organic products are cheap

Sensory appeal

Organic products smell nice

Organic products look nice

Organic products have a pleasant texture

Organic products taste good

13. What are barriers do you face while buying organic products during the covid

situation? (1-Strongly agree to (-1)-Strongly disagree)

Statements	-3	-2	-1	0	3	2	1
The high price of organic products							
Insufficient consumer knowledge							
Low availability of products							
Short expiry dates							
Low visibility of products in the point of scale							

14. Please provide suggestions to overcome barriers to organic products?

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