

# ***A Study On Consumer's Buying Behaviour Towards Dragon Fruits In Gandhinagar City: A Qualitative Study.***

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## **INTRODUCTION:**

The Indian fruit market has always been a thriving one due to its considerable share of diverse fruits of indigenous and exotic origin. With the westernisation of Indian society and the growing health conscious-customers, the demand for imported fruits has increased in the country over the last couple of years, especially dragon fruit. Interestingly, the demand for dragon fruits is not only witnessed in metro cities but also in other cities of the country. Dragon fruit is a tropical fruit that has become increasingly popular in recent years.

It has many advantages including low water and nutrient requirements, relatively fewer resources for establishing the orchard and its maintenance; multiple harvests of fruit in a year; potential to sustain high yield for up to 20 years; high benefit-to-cost ratio; and high nutraceuticals and functional properties (e.g. rich in antioxidants and fibres).

All Dragon fruit grows on the Hylocereus cactus, also known as the Honolulu queen, whose flowers only open at night.

The plant is native to southern Mexico and Central America. Today, it is grown all over the world.

It goes by many names, including pitaya, pitahaya, and strawberry pear.

The most widely available variety has white pulp with black seeds, though a less common type with red pulp and black seeds exists as well.

Another variety — referred to as yellow dragon fruit — has yellow skin and white pulp with black seeds.

Dragon fruit may look exotic, but its flavours are similar to other fruits. The two most common types have bright red skin with green scales that resemble a dragon — hence the name.

Its taste has been described as a slightly sweet cross between a kiwi and a pear.

Dragon fruit contains small amounts of several nutrients. It's also a decent source of iron, magnesium, and fibre.

Here are the nutrition facts for a serving of 3.5 ounces, or 100 grams

- Calories: 60
- Protein: 1.2 grams
- Fat: 0 grams
- Carbs: 13 grams
- Fiber: 3 grams
- Vitamin C: 3% of the RDI
- Iron: 4% of the RDI
- Magnesium: 10% of the RDI

Given the high amount of fibre and magnesium, as well as the extremely low-calorie content, dragon fruit can be considered a highly nutrient-dense fruit.

This study aims to find out about the following:

- Dragon fruit consumer buying behaviour.
- Why dragon fruit has become popular during COVID-19 times? Why was there a sudden demand for dragon fruits?
- What significance does it offer and is it worth the price?
- What is the ratio of households that consume dragon fruit, in India?

## **OBJECTIVES:**

- I. To study the consumers' perception and attitude towards dragon fruits.
- II. To identify the determinants of consumer purchase decision.
- I. To assess the consumer's satisfaction towards dragon fruits.

## **SCOPE OF STUDY:**

As the world shut its doors due to the pandemic, a steep rise in this exotic fruit of the Americas was noticed in India. This research attempts to understand the market that it has seen in India and how the consumers have utilised this commodity.

This study aims to find out why there was a sudden demand for dragon fruits in India and what benefits people see in this fruit. There was a sudden rise in demand for this fruit during COVID-19 times, this research attempts to find out the reason for the same.

## **SIGNIFICANCE OF STUDY:**

The fruit is a promising source of alternative medicine that might serve as an antioxidant, anticancer, hypocholesterolemia, cardio-protective, antimicrobial as well as prebiotic agent.

It's naturally fat-free and high in fibre. It can strengthen your immune system. Dragon fruit is high in vitamin C, which is good for your immune system. It can boost one's iron level.

A fruit with such promising health benefits and popular demand, it would serve as a prominent exotic fruit in the Indian market. The fruit also has to offer a delicious taste.

All these points add to the significance of this research.

## **LIMITATIONS OF STUDY:**

Exotic fruits like such often find it difficult to penetrate the Indian market. Fruits like these come once, gain traction as a fad and move towards a steady decline or if not a decline then a stagnant popularity.

In recent 3–5 years, some of Indian growers have put forward steps to adopt cultivation technologies of dragon fruit for its commercial production. Since the crop is comparatively new to the diverse agro-climatic conditions of India, the major challenge is to optimize region-specific protocols of cultivation, harvesting and post-harvest management practices for maximum yield and quality performance.

Dragon fruits have limitations when it comes to growing them, they need lighting to grow fast. Proper rains and no tint of sunlight. And while it's growing it is made sure that rays of sun don't reach the plant because it hinders its growth and leads to damage of whole produce, and if it gets damaged it needs to be treated and sold immediately. The treatment is to be done in natural ways and no chemicals should be used.

Dragon fruit can have bacterial and fungal diseases and may have pest Issues, it attracts ants, beetles and fruit flies, and these insects can spread diseases

Due to all these limitations, not a major chunk of the population can afford to buy this fruit. The market selling price of dragon fruits usually goes very high.

## LITERATURE REVIEW:-

Farmers in the States of Maharashtra, Gujarat, Andhra Pradesh, Karnataka & Tamil Nadu have taken up Dragon fruit cultivation in recent years and domestic cultivation is getting encouragement because of the advantages. The total Indian area of Dragon Fruit cultivation has the scope to expand further – currently, it is grown on 100 acres approximately. In India, Dragon fruit demand remains high mainly due to its taste, in addition to its nutritional and medicinal properties. India imports 95% of its requirements from Thailand, Malaysia, Vietnam and Sri Lanka. This fruit also has a great potential for exporting to countries of the Gulf, the European Union and the USA. Most of the imported supply is from Vietnam.

Dragon fruit can be cultivated commercially up to an altitude of 1700 m with rainfall ranging from 500–1500 mm.

Dragon fruit adapts properly to tropical climates and India is a tropical country with a moderate climate all around the year. Therefore climatic conditions are favorable for growing the plant amid minor adjustments during extreme temperatures. Dragon fruit belongs to the cactus family (Cactaceae) and therefore requires very little water as compared to other crops/fruits. The plant can survive for months without water. For Dragon fruit, scientists recommend Drip irrigation as the best method of Irrigation. The plant ideally requires approximately 1 to 2 litres of water per day during the summer/dry days.

The plants bear fruits during the monsoon season, especially from July to September in India.

“Almost 60% to 70% of our dragon fruit production is sold to roadside vendors,” said Samar Gupta, managing director at Trikaya Agro, which started growing dragon fruit six years ago. Trikaya, which grows more than 100 exotic fruits and vegetables in Maharashtra, today produces 30-35 tonnes of dragon fruit annually.

The marketability of dragon fruit is expected to be very high because of the limited number of commercial producers and high demand. There is a potential for off-season production of Dragon fruit in India, and the market price remains as high as INR 150.00 to 250.00 per kg during off season. In the future, production is expected to rise.

**Market Summary**  
CAGR 3.9 %



Study Period:

2016 - 2026

Base Year:

2020

Fastest Growing Market:

Europe

Largest Market:

Asia Pacific

Growth Rate in India:

3.9 %

- Sales of Dragonfruit In India in 2021, Vs. expected in 2026.

Dragon fruit is best eaten raw, but you can throw it on the grill like some other fruits. Enjoy it on its own or add it to:

- ◆ Cocktails.
- ◆ Desserts.
- ◆ Fish, especially cod, tuna and mahimahi.
- ◆ Salads.
- ◆ Smoothies.

- World's major supplier countries of dragon fruit can be broadly divided into following three main hubs:-

1. Asia: Vietnam, China, Thailand, Taiwan, Indonesia, Malaysia, Philippines, Cambodia, India, Sri Lanka.
2. Middle East and Europe: Israel, Switzerland, and EU
3. America: Mexico, Colombia, Ecuador, Guatemala and Costa Rica.

At present, Vietnam is the largest dragon fruit supplier in the world, accounting the highest share in Asia, Europe and sometimes in the United States.

## Research Methodology:-

### I. Type of research: Descriptive Research & Exploratory research.

Descriptive research: This is a type of research that describes a population, situation, or phenomenon that is being studied. It focuses on answering the how, what, when, and where questions Of a research problem, rather than the why.

Exploratory research: Exploratory research is defined as research used to investigate a problem which is not clearly defined. It is conducted to have a better understanding of the existing problem, but will not provide conclusive results. For such a research, a researcher starts with a general idea and uses this research as a medium to identify issues, that can be the focus for future research. An important aspect here is that the researcher should be willing to change his/her direction subject to the revelation of new data or insight. Such research is usually carried out when the problem is at a preliminary stage. It is often referred to as the grounded theory approach or interpretive research as it is used to answer questions like what, why and how.

### II. Qualitative type: Research was used for the study: Qualitative research is the process of acquiring data by studying subjects in their natural habitat. The focus is on understanding the why and how of human behaviour in situations and is defined as a scientific research method to obtain non-numerical data.

### III. Data used: Primary Data was collected for the study.

Primary Data: Primary data is a type of data that is collected by researchers directly from main sources through interviews, surveys, experiments, etc. Primary data are usually collected from the

source—where the data originally originates from and are regarded as the best kind of data in research.

IV. Sampling: Non-random sampling - Judgmental sampling was used for the study.

Non-random sampling: Non-random sampling is a sampling technique where the sample selection is based on factors other than just random chance. In other words, non-random sampling is biased. Here, the sample will be selected based on the convenience, experience or judgment of the researcher.

Judgmental sampling: Judgmental sampling, also called purposive sampling or authoritative sampling, is a non-probability sampling technique in which the sample members are chosen only based on the researcher's knowledge and judgment. As the researcher's knowledge is instrumental in creating a sample in this sampling technique, there are chances that the results obtained will be highly accurate with a minimum margin of error.

## ANALYSIS:-

The following questions were asked of consumers for research purposes:

(5 RESPONDENTS WERE ASKED QUESTIONS FOR OPINIONS)

- How likely are you to recommend dragon fruits on a scale of 1-10 to friends and Family?
- Are dragon fruits regularly consumed in your household?
- Are you aware of the benefits it provides?
- Do you think it's worth the price?
- Where do you usually buy dragon fruits from?
  - Street hawker
  - Local shop
  - supermarket
  
  - Online shops
  - directly from producers

- Overall Satisfaction:

1. Taste.

2. Price.

3. Nutritional Value.

4. Quality.

1. Availability.

### Responses

- Out of 5 respondents, 3 of them said they would highly recommend dragon fruit, while 2 of them said they are not willing to buy dragon fruit regularly as it is costly.
- When asked if they regularly consume dragon fruits all five of the respondents said no.
- When asked if it is worth the price 4 out of 5 respondents said yes.
- All five respondents said they like to buy the fruit from street hawkers as they feel they sell it fresh.
- Overall satisfaction-
- Taste- 4.5/5
- Price- 3/5
- Nutritional value- 5/5
- Quality- 4/5
- Availability- 3/5
- Respondents also pointed out that they would prefer buying dragon fruit in season ie, August-  
Oct, where rates are reasonable and fruit is fresh.
- One of the respondents Aduram Jat, a 35-year-old resident of Gandhinagar pointed out his low immune system and his dietician recommended dragon fruit for the same and he has seen visible change.
- All the respondents happily agreed to the fact that this fruit has proven beneficial during COVID-19 times.
- One of our respondents Shiv 40 year 40-year-old Engineer turned Farmer said that he at first place turned into an organic farmer because he saw scope in organic fruits. Serving chemical-free fruits is a great business idea for him and a revolution in India. He says it works both ways, we can also earn profit and consumers are happy with the product they are getting.



After interacting with consumers the following findings were witnessed:

-Major purchases were made during the fruit season i.e. August -December during which the prices are reasonable as well.

-The consumers saw significant health benefits due to the fruit and have recommended consumption to others as well.

-Since it's a new fruit in the Indian market, the consumers have come up with various modes of consumption like smoothies, fruit bowls, yoghurt etc as per their taste.

-Dieticians have also recommended the fruits due to their benefits as well as the fibrous texture added with its easy and adaptable taste.

When asked farmers, why they would choose such a risky business, dragon fruit being new in the market following observations were made-

- Dragon fruit being a new fruit, it will always be a new fruit to try.
- Medicinal values, dragon fruit has medicinal values so it would be marketed as a medicinal fruit which would create niche customers.
- Few Farmers, being a high-cost plantation, only a few farmers can/would grow this fruit so it would create a monopoly over pricing at starting years of fruit output.

- The average production and expenses for the cultivation of dragon fruit are:

2018 - 4 MT

2019 - 8 MT

2020 - 21 MT

Expense

2018 - 10 Lakhs

2019 - 12 Lakhs

2021 - 12 Lakhs

(Average data when asked 5 farmers)

- The tonne and the expenses have increased in the past 3 years as demand has for fruit has increased.
- A significant rise in the profit was seen in 2020 and 2021. As compared to 2 years ago the supply and demand have grown exponentially.

The increase in demand was seen due to the lockdown situation and the medical benefits of the fruit.

Farmers are willing to grow this fruit as it yields more returns than investment.

When asked a few businessmen where they sell their produce, they stated:

1. Local Retailers
2. Local Customers
3. Commission Agents

When asked about limitations and other points regarding the fruit, they stated:-

Customers require fresh fruits.

- Timely delivery because the dragon is highly perishable with a shelf life of 2-3 days at room temperature.
- Organic Fruit
- Most customers prefer Pink flesh dragon Fruit.
- Customers prefer less quantity dragon fruit because it is costly.

## **Conclusion:-**

It is only recently that dragon fruit was introduced in the country and in such a short time it has made a place among the consumers. Consumers have loved it and have come up with various applications of it and this is only recent. Businessmen have been said to have loved selling exotic fruits since they love breaking the monotony of the market for profits obviously, but also to offer something new to the consumers. Farmers have found ease in growing this fruit on Indian soil and have been harvesting gradually more as the demand increases. The market that the fruit offers is very promising and has a rich prospect in the future. Exotic fruits like these come and add new flavour to the Indian palette of fruits and vegetables and hence consumers love adding new flavours to their diet. From all the above research and facts and above all the consumer opinions it is safe to say that dragon fruit is here to stay.

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