

## Impact of Online Consumption on Demand of Organic Food Products in Oman

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### Abstract:

The attitudes and habits of respondents about food and health have undergone a substantial shift. Indeed, the findings of the study pointed to a shift toward healthier diets, as evidenced by the fact that 45.5% of participants increased their intake of fruits and vegetables, 48% ate more healthy foods, and 58% decreased their intake of unhealthy foods, particularly as 32% of participants increased their use of online organic food products; the absence of panic buying in Oman as 68% of participants reported not stockpiling food items; and a decrease in food waste. In order to accomplish the objectives of the research, methods of collecting primary and secondary data were used. Reports, surveys, websites of research institutions, previously published books, online journals, and papers were the key online sources that were used for collecting secondary data. The primary data was gained via the use of a standardized questionnaire that was sent to clients and collected their responses. The study is based on the results of an online survey conducted from 2020 to 2022, using the Survey Monkey platform. The results also brought to light the factors that contribute to an increase in the consumption of organic foods as well as the challenges that prevent an increase in organic profit. Products labeled as organic have been produced in a manner consistent with nature and without the use of potentially harmful chemicals. Those consumers who consumed organic items more often before to the outbreak have either maintained their current consumption or increased it, in contrast to those customers who are more indifferent and have maintained or decreased the amount of organic foods in their diets. COVID-19 seems to bring about a surprising number of good changes in Oman, improvements that will make the consumption of food more environmentally friendly and healthful.

**Keywords:** Organic Food Products, COVID-19, Consumers, Healthy Foods

### 1. Introduction:

In the midst of the COVID-19 outbreak in Oman, the purpose of this article is to analyze different perspectives on the impact that internet purchasing has had on the demand for organic food goods. Oman is a sovereign Arab republic that is located in the southeastern part of the Arabian Peninsula. Oil and gas production provide the majority of the support for the country's economy. Since 1964, when oil was discovered in Oman for the first time, until the present day, when 150 Omani oil fields are producing more than 900,000 barrels per day, the oil and gas sector has been the driving force behind Oman's amazing growth in quality of life. Oil was discovered in Oman for the first time in 1964 [1]. In the present day, 150 Omani oil fields produce more than 900,000 barrels per day. However, many of them are less productive, more sophisticated, and smaller in scale than those that are typical of the Middle East. This, in turn, pushes up the expenses associated with manufacturing. The COVID-19 pandemic, which resulted in a catastrophe for public health on a global scale, posed difficulties for even the most advanced medical and governmental institutions in the world. Governments in every region of the world have given serious thought to a wide variety of potential responses, such as social isolation, lockdowns, the cancellation of school days, and the outright ban on public gatherings. In spite of the significance of these projects, a lot of individuals have voiced their worries about the disturbing psychological, social, and economic effects that they may have on the production and consumption patterns of countries all over the globe [2]. Along the same lines, COVID-19 has had an impact on agricultural and food production systems at a variety of different levels, from the farm to the consumer's plate. In point of fact, the pandemic had a variety of repercussions, both positive and negative, on dietary practices and standards. In addition, COVID-19 is a worldwide pandemic that has caused a financial and economic disaster. It is anticipated that this disaster will have a considerable influence on the availability of food, the quality of diets, and the diversity of diets [3].

Consumers concentrated on panic buying and stockpiling during the early stages of the epidemic because they were worried about their family and the prognosis for the future. In the immediate aftermath of the announcement of the first coronavirus cases in a number of countries around the world, there have been multiple reports of people acting in a state of panic and buying large quantities of food that can be stored for an extended period of time, such as pasta, rice, and other grains [4]. Second, COVID-19 has substantially altered both the eating habits of people and the nutritional value of the food they consume. The extreme changes in lifestyle that were brought about as a result of the lockdown and quarantine, as well as the overall scenario, contributed to the development of negative feelings such as boredom, despair, tension, and fear of the sickness. It's possible that this had an effect on the food, which in turn led to unhealthy eating patterns and frequent snacking [5]. Several countries that are members of the Gulf Cooperation Council (GCC), such as Oman, Bahrain, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates, saw their obesity and overweight issues become even more serious as a result of the pandemic (UAE). Numerous authorities in the field have stressed the role that the pandemic's uncomfortable symptoms played in leading people to overeat, particularly "comfort foods."

As has been seen in other parts of the globe, many consumers in the region have developed a coping mechanism that entails increasing the amount of unhealthy, fatty meals that they eat in order to maintain their energy levels. Nevertheless, COVID-19 required its participants to examine their routines, which resulted in many of them developing a heightened awareness of their eating habits [6]. In Kuwait and Qatar, residents have decreased their intake of unhealthy items such as fast food, cookies, cakes, and pastries. They drank more water and other liquids that hydrated them in addition to eating more nutritious meals. These meals included nutritious snacks, fruits, and vegetables [7]. COVID-19 has caused people to shop for food differently than they used to. Customers have decreased the number of times they visit the grocery shop and increased the amount they purchase during each visit in an effort to limit the dangers they perceive of being exposed to COVID-19. In addition, customers began making purchases online, which sped up the process of digital technology adoption and necessitated considerable changes in the retail and commercial sectors. Since the beginning of the epidemic, there has been a notable expansion of both online shopping and local delivery services across the GCC area [8]. Additionally, delivery times may range from two to ten days, and greater minimum purchase volumes have contributed to the unprecedented rise of the online retail food items industry. However, depending on a variety of circumstances, including epidemiological conditions, socioeconomic development, and the efficiency of national health systems, the final COVID-19 outcomes might wind up being very different from one another. One country that is particularly remarkable is Oman, which has a high income and is ranked among the food-secure nations in the world. The Sultanate of Oman is a country in the Middle East that is a part of the Gulf Cooperation Council (GCC). It has a population of 4.6 million people and a GDP per capita of 14971.7 USD in 2019 [9]. It has a total landmass of 309,500 kilometers. In 2019, oil continued to be the primary driver of the Omani economy, accounting for more than fifty percent of total exports, seventy percent of the money collected by the government, and thirty percent of personal income. This is in spite of the many efforts that have been made to diversify the economy. The combined effects of COVID-19 and the severe decrease in oil prices were anticipated to have a negative impact on Oman's gross domestic product by an estimated 3.5% in the year 2020. As a direct consequence of this, it is projected that the deficit would be more than 17% of GDP by the year 2020. Oman reported its first case of COVID-19 on February 24, 2020, and on April 1, 2020, it reported its first mortality that was associated with COVID-19. As of April 14, 2021, the Sultanate recorded 174,364 instances of the disease, including 1,798 total deaths. During the early phases of the epidemic, the government of Omani took a variety of measures to prevent the spread of COVID-19. These measures included a lockdown of the country, social separation, mobility limits, a prohibition on public assemblies, and other similar measures [10]. As people become more conscious of the scarcity of resources, the government has only very recently begun making steps to diversify the economy in response to this rising concern [11].

## **2. Review of literature**

The gap that formerly between the consumer and the retailer has been significantly reduced, and the two parties are now closer to one another than they ever were before. The rapid use of the Internet as a distribution medium has resulted in repercussions for a variety of traditional retail establishments [12]. The shift toward making purchases via online platforms has resulted in the proliferation of a huge number of online merchants, the majority of which now have a preponderant position in the online sales market. The vast majority of academics are aware of the fact that internet shops provide prices that are lower than those offered by brick and mortar enterprises owing to the lower operational costs incurred by online businesses. As a

consequence of the rise in the availability of digital access, an increasing number of people are turning to the internet to research a wide variety of topics and read current events articles. Because of the country's climate, it is not possible to cultivate vegetables during the whole year in Oman [13]. These goods, on the other hand, may be cultivated not just to achieve goals related to food security but also to act as cash crops, which can bring in both financial gain and job opportunities. It's possible that increasing Oman's vegetable production might help the government achieve its goal of diversifying the economy of the nation. It was possible to increase agricultural production while still meeting regional food security goals, according to the findings of an investigation into the technical efficiency of a selection of crops, which, taking into account the state of technology at the time, revealed that it was possible to do so [14].

The information that can be found on the internet is not only easily accessible, but also very abundant, to the point where it is almost unbounded. People may use digital gadgets more often and for longer periods of time as a result of the fact that it is now easier to use digital equipment. As the state of the environment continues to deteriorate, more and more people are turning their attention to sustainable development as a method to protect not just the natural world but also human civilization. The rapid development of the global economy is intrinsically related to the increase in consumer spending everywhere [15]. This relationship must be understood. However, growing consumption is also associated with a rise in the number of issues affecting the environment. Both the processes that are used to get these commodities as well as the commodities themselves contribute to environmental pollution. It is imperative that environmental preservation be practiced if the health of the ecosystem is to be maintained and even enhanced through time [16].

The terms "green buying" and "green marketing" are gaining more and more traction as time goes on. Consumers who are concerned about conserving resources and preserving the natural world are more likely to make "green" purchases. The term "green marketing" refers to the many marketing strategies established by businesses for any and all clients. The purpose of these initiatives is to reduce the negative effects that the company's products and services have on the surrounding environment [17]. Several companies have updated their manufacturing procedures as a response to worries about the environment as well as changes in the attitudes that customers have about the environment. Research is currently being conducted in Northern Oman in order to determine the level of nitrate and specific pesticide groundwater pollution that is caused by agriculture, as well as to investigate the viability of utilizing models in order to control the entry of nitrate and pesticides into groundwater. In addition, the research aims to determine whether or not it is possible to use models in order to control nitrate and pesticide entry into groundwater [18]. Samples of the groundwater are now being collected and analyzed in order to ascertain the scope of the problem and search for any possible trends. An study of soil samples was also carried out in addition to a questionnaire survey. According to the first results of the research, 23 percent of the samples exhibited levels of nitrate that were greater than the maximum amount that is recommended to be present in drinking water. Nitrate concentrations in groundwater are typically increasing, and they are higher in agricultural soils than in non-agricultural soils [19]. This difference may be attributed to the use of agricultural fertilizers. They switched to utilizing goods that are better for the environment and for human health rather than those that are similarly bad for the environment and for health in general [20].

Despite the fact that manufacturers have developed environmentally friendly products, the majority of consumers are not interested in purchasing them. This could be due to the consumers' dislike of new technology, their resistance to paying the higher prices associated with these new products, or a combination of all three of these factors, which in turn creates sales barriers. In order to be successful in green marketing, one must have a comprehensive awareness of the elements that influence the purchasing choices of customers for ecologically friendly goods [21]. Customers have more flexibility and convenience when it comes to gaining access to digital content and making purchases from vendors located all over the world as a result of the proliferation of internet shopping, which has increased the number of possibilities and variants of distribution channels. This conduct provides consumers who are environmentally conscientious with unintended extra possibilities to put into effect the lifestyle choices they have made and, as a result, help the environment by buying products that are less harmful to the environment [22].

Customers that are well-informed about the environment are more likely to pick items that are beneficial to the environment because of the information they have. One way that a person might encourage themselves to support sustainable development and environmental preservation is by purchasing goods and services that are environmentally friendly rather than their usual products and services that are not environmentally friendly. This is an excellent point from which to start. arguing that protecting the environment may be accomplished in part by reducing human interference with the natural world and

increasing the rate of sustainable consumption, a strategy that encourages people to buy things that are less harmful to the environment is one possibility. As a result of the increasing growth of online platforms and the rising consumer acceptance of green products, a great number of companies that manufacture environmentally friendly items are establishing online shops in order to market their wares. Online platforms may be used by environmental leaders in order to quickly disseminate information, engage in direct interaction with the general public, combat disinformation campaigns, and give rebuttals to erroneous or unclear statements. Despite the fact that many consumers in today's market are more aware and sensitive of how their purchasing selections can influence the environment, a very small percentage of persons are currently purchasing things that are environmentally friendly [23].

Studies have shown that consumers in today's society are more willing to buy environmentally friendly products; however, this mentality may be influenced by a wide range of factors. According to the opinions of a number of authors, the desire to get an environmentally friendly goods may exist, but it does not necessarily take the form of an actual purchase. Studying consumer behavior in today's environment may be difficult since people behave in a wide range of ways when they are shopping, which makes it difficult to generalize about consumer behavior. The traditional connection between buyer and seller is in danger of being disrupted by customers who belong to Generation Y (also known as Gen Y). If retailers want to earn the attention, money, and loyalty of Gen Y customers, they will need to make adjustments to the marketing strategies they use. An increasing number of researchers have been conducting in-depth studies on green marketing and green purchases in an effort to promote sustainable development that protects the environment and society. Despite this, there are still many gaps in the literature, particularly with regard to emerging markets. As a result, the purpose of this research was to evaluate the factors that influence Generation Y's preferences for environmentally conscious buying practices in the Sultanate of Oman in relation to online commodities. The research was carried out using both a qualitative and a quantitative methodology. Questions from earlier study were adjusted and incorporated in the questionnaire in order to get a better understanding of the significant factors that influence Gen Y consumers' decisions to make environmentally conscious purchases online. In all, 126 members of Generation Y consumers responded to the survey. Research has been conducted in the past on consumers' intentions to make future purchases. In recent years, however, the focus of a great deal of study has switched to choices around purchases [24].

### **3. Potential of Organic Food Products**

Compost, manure, and even the byproducts of fish farming may be considered organic fertilizers; however, the use of sludge or wastewater from humans is not necessarily necessary in organic farming. Organic farming relies on organic fertilizers. The history of organic certification, on the other hand, is quite recent when one considers that it didn't even begin until the early 1900s. The "return to the land" and farmers' movements that chronicled organic farming techniques throughout the modern and post-modern eras of agricultural history served as the basis for this concept. In 1980, the International Federation of Organic Agriculture Movements, which is now known as Organics International, was the organization that first disseminated the core rules that had been the product of the process of codification. (IFOAM). The most effective technique for eradicating unwanted organisms, such as weeds, diseases, and insects, is to take preventative actions. Egypt and Turkey are included on this list to emphasize how far ahead of the rest of the countries in the non-European Mediterranean, North African, and Middle Eastern region they are. They fulfilled the need for organic items from the European countries that were nearby, which was a significant factor in their early success. However, it is also connected to the fact that they adopted regulations to preserve and support organic farming at an earlier stage than other countries. If fruits and vegetables are organically grown and certified, their costs may remain higher for longer. In order to be eligible for certification as an organic producer, a farm must demonstrate that it has been operating without the use of any prohibited substances for at least three years. All water-soluble fertilizers and the vast majority of pesticides fall within this category. The first guidelines for organic farming were published by the European Union in 1991. These guidelines are still in effect today. In the United States, the Organic Foods Production Act was passed into law in the year 1990; however, the formal organic requirements were not made public until the year 2002. The first piece of law in Australia was enacted in 1974, making it older than both the EU and the US. Between the years 1985 and 1990, Turkey and Egypt were leaders in a number of emerging industries, including organic food, publishing standards, and legal reform. A variety of organizations, both domestically and internationally, provide organic certification services.

The organic certification process requires an annual examination and documenting of a farm's organic operations by a third party. These inspections and documentations must adhere to a specified set of baseline

requirements that are normally in accordance with IFOAM standards. The majority of farms are certified to particular standards in order to meet the criteria of the country or continent in which they sell their products. For instance, there are European standards for Europe, USDA standards for the United States, and Japanese standards for Japan. All of these standards are specific to their respective regions. In addition, a number of countries and certifying organizations have established reciprocal relationships that enable them to accept certifications issued by other countries or continents. On the other hand, there are a number of other "eco-labels" that may be found on food products that are now on the market. These items are "self-certified," which indicates that they are basically verifiable statements from the seller and may or may not be priced more expensively than non-environmentally friendly alternatives. Consumers who are acquainted with the organic sector are likely aware of the difference between certified and "eco" goods, in contrast to those who are not familiar with the organic industry and have only bought certified organic products in the past. Consumers who have greater knowledge are often willing to pay a higher price for brands they are familiar with. The high demand for certified organic items is the primary contributor to the price increase of these commodities. The size of the crop and the production run may or may not have a significant influence on the expenses of production. The certification of farmers comes with a large annual cost; however, the increased market value of certified commodities helps to balance the additional effort and expenditure that is required.

In Oman, the cost of conventional vegetables was often two to 10 times higher than the cost of organic vegetables, which commanded a premium. The vast majority of the vegetables on the list are imported. This is due to the fact that there is now just one farm in Oman that sells certified organic vegetables. It is feasible to make a reasonably accurate prediction on the future of organic farming in Oman if one takes a thorough look at the success of organic farming in other countries. According to the numbers provided by IFOAM, there were 2.9 million farmers operating on organic land around the globe in 2017. This land covered 69.8 million hectares. According to information gathered from 181 countries, just 1.4% of the world's agricultural land is utilized to produce items that have been certified as organic. Organic farming is often performed in countries where agriculture takes up more than 10% of the total land area in the country. Because of this, a pattern emerged in which states that have a greater area committed to the production of organic food are "early adopters" of trends in organic legislation. On the other hand, acceptance rates for organic goods are lower in countries that do not have any rules or regulations pertaining to organic agriculture. This is partially due to the lack of motivation on the part of their farmers to go through the additional labor and expense of certification when their products bearing expensive certification labels are not shielded from cheaper goods bearing "natural," "eco-label," or other noncertified labels. This is partially due to the lack of motivation on the part of their farmers to go through the additional labor and expense of certification when their products bearing expensive certification labels are not shielded from one another.

In its annual report, IFOAM highlighted not just specific global and national trends, but also a number of different geographical regions. Sweden and Germany are among the leading countries in terms of the percentage of their land that is certified as organic. This is in part due to the early adoption of organic standards in Europe. Oman maintains a similarly high ranking for the same reasons as previously mentioned. The poll also revealed that all three countries continue to make use of agricultural land in order to produce organic commodities, despite the fact that the number of farms in Oman has decreased somewhat in recent years. The average size of an organic farm in Oman is already far greater than those seen in other countries, and this trend is expected to continue. Crop rotation, physical barriers such as polyester row covers, biocontrol approaches, and a limited number of legally permissible low-toxicity pesticides such as sulfur and copper to cure diseases or neem oil for insects are examples of some of these technologies. The practice of organic farming has been around for a very long time and integrates traditional agricultural methods from throughout the globe. In the early phases of the development of organic standards, these organizations, which often started out as non-profits, played an essential role.

**Table 1: Prices of organic food produce, Oman.**

Product	Price in Omani Rials/kg		Organic vs. Conventional
	Normal	Organic	Price Premium
Beets	0.33	1.99	66%
Eggplant	0.95	5.02	477%
Mushroom white	2.17	7.65	1660%

Carrot	0.29	3	87%
Cucumber	0.17	1.9	32%
Potato	0.29	3.1	90%
Summer squash	0.65	3.2	208%
Canned tomato	3	2.01	603%
cherry tomato	4.5	5.66	2547%
Roma tomato	2.1	0.95	200%
Vine tomato	1.15	1.85	213%

The United States seems to be slowing down in both sectors during the last eight years, with just a 0.53% and 1.23% increase in land area and farms per year, respectively, but Oman has had a more than 10-fold expansion in both over the same period of time. These seemingly unrelated stories provide light on the potential role that government help may play in fostering economic growth. It is interesting to note that after the United States organic guidelines were published, larger organic farms expanded while smaller organic farms began to "opt-out" of organic certification because they relied more on direct consumer interaction than on a certified organic label. This dichotomy between the two types of farms can be attributed to the fact that larger organic farms were able to attract more customers. Recently, at a meeting of farmers in Oman, an announcement was made on the agreement of the Ministry of Agriculture to establish an office for organic farming. It has not yet been decided whether or not legislation should be passed to protect the organic label or create a certification system for organic products. Both the total land area and the number of farms were remaining relatively constant. These farms have gained the title of "organic" certification by adhering to the principles of organic farming and/or organic eating, which has earned them the status of "organic." In contrast, there are not a great number of farms in Oman that are "market-oriented," as opposed to farms that cultivate food for domestic or family consumption. In fact, we only have one farm that sells to the hypermarkets in the surrounding area. According to the findings of the Oman Census of Agriculture in 2013, the majority of the food produced on Omani farms was intended for the use of the farm's owners and their immediate families. The remaining product was either sold at local markets (9.5%) or exported (0.5%). The remaining material is either unknown or has been sold for processing. According to the Census of Agriculture in 2013, there were 166,610 farms in the Sultanate of Oman. These accounted for a total of 315,011 feddans (132.3 hectares; 326.92 acres). Ninety percent of them were less than two feddans, which is equivalent to 0.84 hectares or 2.07 acres. 10% of farms with an area larger than two feddans are capable of selling their produce at the local market.

#### 4. Objectives

These preventive actions have disturbed several sectors and posed various challenges. Likewise, these actions may have affected food consumption and food shopping behavior. Accordingly, in this paper, a sample of 270 Omani consumers will be polled about their views on the potential consequences of the COVID-19 pandemic on their Online Organic Food Products. The research is based on four hypotheses:

H1) There is no significant difference between the groups of the first factor First Time, Less, About the same, Never and More (measurement repetition) in relation to the dependent variable.

H2) There is no significant difference between the groups of the second factor Item in relation to the dependent variable.

H3) There is no interaction effect between the factor First Time, Less, About the same, Never and More and Item.

#### 5. Research Methodology

The information that was acquired here was completely unrelated. The most current editions of journals, magazines, and newspapers, such as the Economic Times, were consulted in order to compile the data.

- **Sampling Design-** The use of a descriptive research methodology combined with longitudinal studies and Normal Distribution is now taking place in order to give a holistic approach. The projections for Online Consumption growth in Oman during the next 10 years.
- **Study Period:** The survey was conducted from 2020 to 2022.
- **Sampling Techniques -** In order to determine if the questionnaire could accurately measure the objectives for which it was intended, the researcher validated it. In evaluating the reliability of the

questionnaire, from 2020 to 2022 in Socio-demographic and users have been collected. The number of responses is sufficient for the questionnaire reliability test.

- **Sample Size** –A survey data collect from 2020 to 2022 in Socio-demographic.
- **Tool for Data Collection** - Studying secondary materials, such as recent research papers, published reports, newspaper articles, online articles, economic magazines, and annual Report Department of Statistics Ministry of Agriculture & Fisheries, Sultanate of Oman. The collecting of data includes qualitative in addition to quantitative aspects.
- **Tools Used For Data Analysis**
  1. Socio-demographic
  2. Descriptive statistics
  3. Correlation and significance
  4. Tests for normal distribution of Less

**Table 2: Socio-demographic**

Variable		Frequency	Valid percent
Gender	Female	150	45.75
	Male	120	36.6
Age	18–24	115	35.075
	25–44	107	32.635
	45 and over	48	10.065
Level of education	No formal schooling or primary School	5	1.525
	Secondary School	90	24.4
	University Degree	133	70.15
	PhD	42	12.81
Income	Lower than most other households	50	12.2
	About the same as most other households	150	76.25
	Higher than other households	70	18.3
Occupation	In paid work (full time or part time)	81	57.34
	Student	119	36.295
	Unemployed and looking for work	40	9.15
	Home duties	25	7.625
	Retired/pensioner	5	1.525
Household composition	Single person household	3	0.915
	Living with parents	105	36.6
	Married with children	80	35.075
	Married without children	10	3.05
	Extended family	70	31.11
	Shared household, non-related	2	0.61

**Interpretation:**The socio-demographic features of the respondents are shown in Table 1. The results indicated that 36.6% of the participants were men and 45.75% of the participants were female, 36.6% were Living with parents. Moreover, most respondents were 350.75% were 18-24 years old, and 76.25% earned the same income as most of Oman’s families. In general, the sample was well-educated, with 70.15% holding a University Degree.

**Table 3: Descriptive statistics**

Item	First	Less	About the same	Never	More	Total
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	Time					
<b>Buying local food Products</b>	3.35	10.97	43.85	9.5	25.82	18.7
<b>Ordering Organic Food Products online</b>	5.32	9.5	11.11	29.79	28.08	16.76
<b>Buying Organic Food Products in person from a large supermarket</b>	1.14	22.49	40.15	3.95	24.12	18.37
<b>Having Organic Food Products delivered directly to home from a full-service or by a delivery application</b>	3.95	14.86	17.45	20.53	26.8	16.72
<b>Total</b>	3.44	14.46	28.14	15.94	26.21	<b>17.64</b>

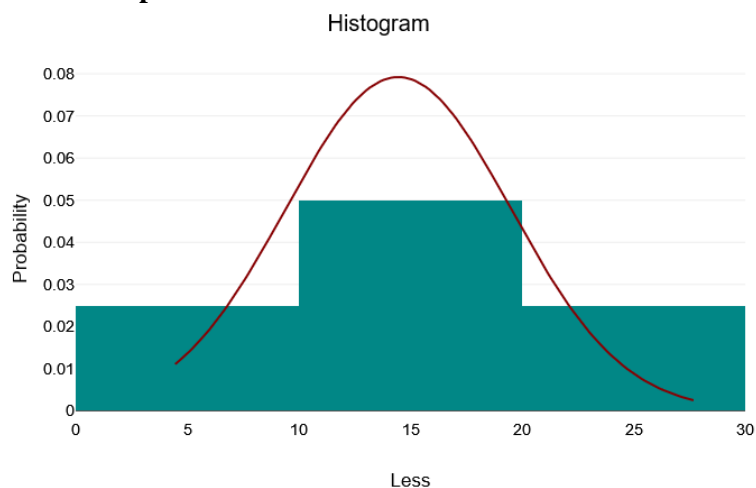
**Table 4: Correlation and significance**

		First Time	Less	About the same	Never	More
<b>First Time</b>	<b>Correlation</b>	1	-0.9	-0.78	0.94	0.99
	<b>p (2-tailed)</b>		.102	.218	.06	.007
<b>Less</b>	<b>Correlation</b>	-0.9	1	0.43	-0.7	-0.84
	<b>p (2-tailed)</b>	.102		.571	.3	.16
<b>About the same</b>	<b>Correlation</b>	-0.78	0.43	1	-0.94	-0.85
	<b>p (2-tailed)</b>	.218	.571		.058	.149
<b>Never</b>	<b>Correlation</b>	0.94	-0.7	-0.94	1	0.97
	<b>p (2-tailed)</b>	.06	.3	.058		.027
<b>More</b>	<b>Correlation</b>	0.99	-0.84	-0.85	0.97	1
	<b>p (2-tailed)</b>	.007	.16	.149	.027	

**Table 5: Tests for normal distribution of Less**

	Statistics	p
<b>Kolmogorov-Smirnov</b>	0.23	.961
<b>Kolmogorov-Smirnov (Lilliefors Corr.)</b>	0.23	.134
<b>Shapiro-Wilk</b>	0.9	.451
<b>Anderson-Darling</b>	0.39	.377

**Graph 1: Tests for normal distribution of Less**



## 6. National Organic Legislation in Oman and its Impact

In order to get access to markets in the United States or the European Union, Oman's six recognized farms must first receive accreditation from an outside international organization. On the other hand, it is currently uncertain if any of the things have been dispatched as of this moment. A logical next step that might stop people from "imitating" the word "organic." There aren't many farmers that sell "nearly organic" or



uncertified organic foods at farmer's markets, so it's hard to say whether or not this is necessary. One hydroponic grower even touts their products as "certified wonderful" and "beyond organic" and sells them in hypermarkets. If advertised in the United States, this would be subject to a fine of \$10,000 due to the fact that the word "organic" may only be used by certified farmers or by small-scale non-certified producers that sell directly to consumers and not via retail outlets. This step could take care of the problem while also providing an affordable way to gain certification via a national label or recognition of some type. Recently, the United Arab Emirates and Saudi Arabia both made steps in this direction, outlining a set of 2014 GCC common standards that may be applied by these countries as well as Oman to "harmonize" their import and export restrictions. Oman was also included in this group of states. According to the findings of the study, there is a finite number of individuals who are willing to pay higher prices; nevertheless, increased consumer demand may also result in prices being set at a higher level in the market. The aim of third-party inspection and certification in line with a set of globally recognized standards is the ideal target to shoot for if one want to grow the number of farmers in the Sultanate of Oman. However, moving forward requires taking into consideration not just the requirements of local consumers and farmers, but also the entire supply and demand for vegetables in Oman and the other Gulf states. In addition, there is reliable information available from the countries of China, Pakistan, and India, which may be contrasted and compared. Both water and fertile land are very hard to come by and put a strain on the ecosystem in Oman. There are a lot of other "eco-labels" that could be used to designate the traditional farming techniques that are still used in Oman. This is especially true if the traditional farming techniques were used in conjunction with pesticide-free farming techniques, the use of natural or customary soil supplements, and other such practices. On the other hand, there are a great deal of eco-labels accessible on the market right now, but none of them adhere to any standards that are universally accepted or firmly established. These labels could be misleading or worthless if there isn't any independent verification of them. Because of this, adding eco-labels that have a solid foundation may look straightforward and economical at first glance, but doing so may actually lead to increased levels of confusion and frustration among customers.

Oil is the primary contributor to Oman's economy. In light of recent events in the global crude oil markets and ongoing worldwide endeavors to build cars that run on renewable energy, countries that are reliant on oil are coming under increasing amounts of pressure to find other means to preserve their economies. In this particular scenario, Oman is attempting to transition away from an economic dependence on the oil industry and toward a greater emphasis on other sectors of the economy such as agriculture, fishing, and tourism. The strategy of diversifying the economy accounts for an anticipated rise in the agriculture sector's contribution to GDP. Food produced using organic methods is one of the agricultural goods that may be produced in Oman and has a lot of potential. Both the demand for and supply of vegetables in Oman seem to be trending in a favorable direction. On the demand side, there is currently a significant discrepancy between the amount of vegetables produced locally and the amount that is demanded on a national scale. As a direct consequence of this, both the supply and the demand are solid and dependable, and they will continue to increase in the years to come. Therefore, Oman need to make the most of this opportunity to raise the quantity of organic food it produces by growing both horizontally and vertically, using big buildings to cultivate organic food using hydroponic methods. The use of more contemporary practices will result in a significant increase in productivity. Furthermore, the data reveals that local vegetable costs in Oman have consistently been lower than those of imported vegetable prices, providing local producers with a competitive advantage in the market. When it comes to organic farming, the industry is rapidly growing around the world as a direct result of increased consumer demand. This desire has resulted in the development of agricultural practices that are beneficial to both the environment and the health of consumers. In the current circumstances, Oman is in a position where it must give due consideration to the newly raised concern in order to avoid the same destiny as Saudi Arabia. In 2008, Saudi Arabia was forced to give up on a wheat-growing effort that had been ongoing for the previous 30 years since it had depleted the country's scarce water resources while simultaneously reaching the goal of self-sufficiency. In order to effectively address this issue in a manner that is compatible with long-term sustainability, it is essential to conduct an analysis of the efficiency of agricultural practices for products such as tomatoes, which are intended to be included in the economic diversification.

## **7. Discussion**

Based on the opinions of 270 participants in the survey, this report assessed the effects of the COVID-19 epidemic on online consumption and food shopping patterns in Oman. We have seen a considerable change in respondents' dietary and health-related behavior and attitudes after the COVID-19 pandemic epidemic

began. The manner in which individuals consume, acquire, and engage with food have changed noticeably. The results identified numerous important consumer trends that have an effect on the research participants' online shopping and purchases of organic foods. First off, the majority of respondents reported reducing their use of unhealthy items like sweets and fast food throughout the pandemic. In the meanwhile, a healthier diet has seen an increase in fruit and vegetable consumption. This led to an improvement in eating patterns toward organic foods compared to the pre-COVID 19 State and may help the country realize its 2050 goal for health and nutrition.

## 8. Conclusion

Using a cross-sectional online survey, this research evaluated the opinions of Omani consumers on the impact of the COVID-19 pandemic on behaviors linked to food consumption. As a whole, the findings of the poll indicate that the COVID-19 outbreak has played a significant role in accelerating Oman's transition toward healthier and more ecologically responsible consumption patterns. The supply and demand forecast for online consumption organic food product on a worldwide scale seems to be positive, according to a review of data about common vegetable cultivation. The global demand for organic food is on the rise and is expected to continue doing so in the foreseeable future. The results led to the rejection of three hypotheses (H1) the groups of the first factor First Time, Less, About the same, Never and More (measurement repetition) in relation to the dependent variable. (H2) the groups of the second factor Item in relation to the dependent variable. (H3) the factor First Time, Less, About the same, Never and More and Item. Buying food produced locally, improving one's ability to organize one's food shopping and procurement, eating healthier overall, and decreasing one's level of food waste are all desirable outcomes. Because of the current COVID-19 outbreak as well as the constraints indicated earlier in this section of the research, the results need to be confirmed and further investigated in the future using a bigger sample size. Furthermore, wealthy countries such as Switzerland, Sweden, and the United Arab Emirates are seeing a tremendous increase in the demand for organic food. A research on technological efficiency revealed that, given the existing level of technology, there may be an increase in the amount of organic food. In times of crisis, such as the one caused by COVID-19, the speed at which information is gathered and disseminated is of the utmost importance. Even a fundamental understanding of people's attitudes, beliefs, knowledge, and behaviors might be beneficial to recent research and strategies.

In addition, the results of the present cross-sectional study offer an appropriate foundation for future longitudinal research on how the pandemic has influenced Oman's food-related habits. This research will investigate how the pandemic has impacted Oman's food-related habits. They also give essential information that may be used to drive policies and measures that are targeted at lessening the consequences that the pandemic is having on food security, nutrition, and sustainability in the Sultanate as well as in other GCC states. Therefore, it has been demonstrated that organic food are of the utmost importance, not only for the purpose of bettering the lives of the people who cultivate them, but also for the purpose of improving Oman's food security by increasing the availability of locally grown organic food throughout the entire year. In addition, the cultivation of organic vegetables in order to fulfill the requirements of wealthy customers has successfully introduced a new dimension to the nation's organic food growing industry.

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