



# Overcoming Challenges in the Quality Service and Production of a Bakery Business: A Literature Review

Carl Dominic A. Virginio<sup>1</sup>, Claire T. Garcia<sup>1</sup>, Angelica S. Cruz<sup>1</sup>, Anjeliza M. Galon<sup>1</sup>, Jean Sophia S. Hizon<sup>1</sup>, Florinda G. Vigonte<sup>2\*</sup> and Bernardino P. Malang<sup>3</sup>

<sup>1</sup>Department of Industrial Engineering, Bulacan State University, Philippines

<sup>2</sup>Department of Business Administration, De La Salle University, Philippines

<sup>3</sup>Department of Business Administration, AMA University, Philippines

## Abstract

Bakery is one of the primary sources of income from the entrepreneurs that serves various products and directly sells to the customers. Quality service and the product are part of the business that conceptualize the customers' perceived expectations. However, the COVID-19 pandemic has brought the worst impact on the food industry, especially bakery businesses. The researchers have studied the challenges of the bakeries worldwide on how it impacts their bakery operations in terms of production, services, and sales. On the other hand, the researchers include customers' perspectives on their satisfaction and behavior regarding the quality service and production of the bakery. Studies said that the major impact of COVID-19 pandemic on bakery business worldwide is increased price value of the bakery product due to restrictions of stores which decrease sales of the suppliers, and delays in transportation which affects their services. In addition, some entrepreneurs suggested proposed methods for overcoming challenges to continue the bakery business in terms of production, services, and food security. This literature review aims to determine the challenges and impacts of COVID-19 on the bakeries by providing proposals that help improve the quality of service and production of this pandemic.

**Keywords:** COVID-19; Bakery; Production; Service; Food security; Customer satisfaction; Customer behavior

## Introduction

In South-East Asia, the production of healthy foods has begun to grow in demand. Healthy foods include functional foods like bread, among others. It is advantageous to health and contains ingredients that benefit the body. The history of bread baking began in Ancient Greece around 600 BC, leading to the invention of enclosed ovens. Ovens have been discovered in archaeological digs from Turkey to Palestine from about 5600 BCE. Baking flourished in the Roman Empire. In about 300 BC, the pastry cook became an occupation for Romans (known as the *pastillarum*) as a bakers' guild was established in 168 BC in Rome. A few years ago, the Roman art of baking became known throughout Europe and eventually spread to the eastern parts of Asia. Bakers often baked goods at home to produce and then sold in the streets. Every family bakes their bread and bread products until baking develops into a trade. Baking became an industry that used heavy machinery and the latest chemical research to produce large bunches of fresh and long lasting bread products. Furthermore, the advances in transportation have meant that baked goods can be transported at large distances. Today, local bakeries still continuously produce bread in large industrial batches sold to supermarkets and other shops [1].

Entrepreneurship is a multi-dimensional concept that manages and owns a particular business and has characteristics of being innovative, leadership, and a business person. It includes doing this business independently, in a team, or inside a company. It involves entrepreneurs starting without any resources and exploring new business values [2]. The business has different organizations such as sole-proprietorship, partnership, and corporation. Entrepreneurship involves introducing a new product or service innovated in the quality of an existing product or service. It introduces new processes or methods of improving productivity. They provide a source of supplying new raw materials or alternative materials, mainly exported in a market [3]. Most entrepreneurs started in small or medium enterprises. Some examples of business enterprises impacting globalization are manufacturing, retailing, food service, financial and insurance activities, etc. need to improve relevant ideas to manage the problems and challenges every day [4]. Studies said that planning is one of the crucial management activities. It serves as the foundation to manage the business effectively and efficiently. Without proper planning, business enterprises significantly impact controlling costs, operations, and decisions.

This study is about entrepreneurship focusing on the bakery business as one of the primary sources of income from entrepreneurs. A bakery is one example of a business enterprise. A commercial bakery produces food in large amounts and directly sells it to consumers. It deals with various products and is sold to customers directly in the grocery stores. In India, the culture of Home Bakery is to run their business by delivering products now to the customers. It was said that the number of households is usually adequate. Consumers are looking for a safe, clean, and personalized product not available in commercial bakeries. The popularity of home bakers has a significant impact by using social media for continuous promotion. Compared to the quality management of Commercial bakeries in India, as the business grows, the commercial setup also needs local authorities, licenses, and health precautions to run the business. It has many challenges to meet the demand for the product. Unlike home bakeries, these are small and unorganized and focus on making quality products [5].

Customer satisfaction has a significant factor in business and is also the most critical goal. The consumers will give feedback on their satisfaction with this product. It was said that the main task of having a bakery business is to please the customers with the services and products offered [6].

The record of rising labor costs, increased price competition, and higher demand for customized products are just a few pressures placed on mod-

**\*Corresponding author:** Florinda G. Vigonte, Department of Business Administration, De La Salle University, Philippines, E-mail: florinda.vigonte@bulsu.edu.ph

**Received:** 04-May-2022, Manuscript No. jcmhe-22-63109; **Editor assigned:** 06-May-2022, PreQC No. jcmhe-22-63109 (PQ); **Reviewed:** 20-May-2022, QC No. jcmhe-22-63109; **Revised:** 25-May-2022, Manuscript No. jcmhe-22-63109 (R); **Published:** 1-June-2022, DOI: 10.4172/2168-9717.1000753

**Citation:** Virginio CDA, Garcia CT, Cruz AS, Galon AM, Hizon JSS, et al. (2022) Overcoming Challenges in the Quality Service and Production of a Bakery Business: A Literature Review. J Comm Med Health Educ 12: 753.

**Copyright:** © 2022 Virginio CDA. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

ern baked goods manufacturers. Data shows that the Philippines have the 2nd highest growth rate consuming bakery products (12.9%) among Thailand and Malaysia [7].

However, it has difficulties such as financial crises primarily resulting in competition, and the bakery operators need to assess and improve themselves and their business operations. The importance of marketing strategies should remain in business. The market industry helps identify new markets, target customers, and determine the product's value, requiring product improvement and innovation [8]. Customer satisfaction is an essential aspect of running a successful business. Customers are a valuable asset for business enterprises that focus their reviews and satisfaction level on both products and services. Food quality is the most favored and selected by the customers [9]. However, even if the entrepreneur has excellent capability to run a business, a failure may occur.

A consumer's behavior has traditionally been defined as a basket of options consisting of activities through which people obtain, consume and offer products and services. The model developed shows that the purchase decision process consists of the following stages: recognition of the need, information search process, evaluation of pre-purchase alternatives, purchase, consumption, evaluation of post-consumer, and disposal stages. They highlighted that the initiator is the person who suggests the buying of a product or service and gathers information that helps in the decision making process. The influencer is the person whose views influence the decision making process. The decision maker decides what, how, and where to buy a product or service. The buyer makes the purchase, and the user is the person who uses or consumes the product or service [10]. However, some business operators encountered unnecessary behaviors toward customers. Dealing with their attitude and behavior is one of the challenging factors to satisfy their wanted product and service.

Another factor of a challenge to the bakery operator was when COVID-19 happened. The COVID-19 challenge faced by the Food and Beverages Manufacturing sector includes operations, safety, supply chain, training, emergency responses, awareness, incident management, recreating business models, etc. [11]. He also added that the lockdown enforced in various countries globally and the operational effects of COVID-19 have negatively impacted economies and severely impacted the sustainability of businesses.

It changed due to global lockdown policies, including the closure of schools, workplaces, and some businesses such as non-essential restaurants and shops, mobility restrictions, and banned occasions and transportations. Most people purchased during this pandemic package food because they see it as more hygienic than buying cooked food in some restaurants. Some purchase groceries with a longer shelf life to lessen exposure outside, while others buy healthier food to boost their immune system [12].

### Objectives

1. To identify the status of the bakery operations with products and services, including its challenges during pandemic situations.
2. To investigate the impact of sales, production, and services on bakeries during COVID-19.

The researchers will study the circumstances and how they deal with challenges from bakery operators. To identify the events of a business operator, the researchers will determine the findings of their business style, strategies, implementations, operations, and management in the Bakery. The researchers will obtain information on their difficulties in dealing with customers and selling their goods during typical situations

and pandemic times. The researchers will recognize these problems and provide information that may help the future business operators of the Bakery.

The study of bakeries impacted by COVID-19 can be summarized from two perspectives. First, the quality service of the bakeries will explain through the literature review its benefits and advantages that may help future entrepreneurs. Second, the researchers will inform the bakery business in a pandemic situation. This information will help prospective entrepreneurs obtain ideas to make their Bakery amidst the pandemic. Specifically, it includes how the pandemic affects their Bakery.

The paper is structured about the bakery background during the pandemic, including challenges and products and services. The methodology is used to obtain information by searching on the website.

### Review of Related Literature

#### Typical situations case in the bakery

A high quality product is one of the critical factors for success in the food industry. The quality management system is one of the most important to ensure food safety. One of their objectives is the development of the products to increase economic efficiency. The ISO 9001 requires standards that establish that an organization continuously develops and improves its performance [13].

Studies show that fast customer service is also another vital skill for a good customer relationship to attain customer satisfaction. In every field of the food business, every customer wants fast service. On the other hand, the customers and suppliers, the nature of the customer are different from the supplies. Consumers always have high expectations that all services are good before going to the supplier. Similarly, the supplier or consumer benefits the business organization, especially in Bakery, which ultimately increases the profit and turns into more sales [14].

Studies said that quality of service precedes customer satisfaction precedes service quality. It has five scopes of service quality: responsiveness, reliability, empathy, assurance, and tangibility. The quality of service is used to observe consumer perceptions relative to their expectations. Hence, bakeries are competitive by differentiating their product through quality service [15].

Bashir said that savings products positively affect Small and Medium Enterprises (SMEs). He added that SMEs had adopted savings products with high annual interest, target savings products, savings products with no minimum balance, and savings products that are accessible. Micro-credit products positively affect the financial performance of SMEs.

Yes, Bakery is an example of an SME that expands its business by using the digital market. They were still relying on stores and motorcycle sellers to deliver their products. Running a digital marketing strategy takes sufficient funds to be invested. Their challenges are innovating their marketing strategy so that investment can return and benefits match their expectations. Preparation of the budget is necessary with several assumptions of conditions in business through the digital marketing strategy [16].

#### Pandemic situation case in the bakery

In Indonesia, small and medium companies (SMEs) dominate Indonesia's business landscape, accounting for 99.9% of the total number of businesses. Then roughly 37,000 small and medium sized enterprises reported on the effects of the COVID-19 outbreak, with 56% reporting a drop in sales, 22% citing cost issues, 15% reporting problems distributing goods, and 4% reporting problems procuring raw materials. Hani

Cake and Bakery, a Yogyakarta based bakery, also experienced a drop in sales. Hani Cake and Bakery is one of the examples of bakeries in Indonesia, offering a variety of cakes, bread, and tarts in various forms and tastes. The drop in sales is caused by a government regulation restricting people's movement, particularly in public places like supermarkets, one of Hani Cake and Bakery's best-selling distribution locations [17].

Some food companies face various challenges due to a drop in income, whereas others work hard to meet retailers' growing demand. During the current COVID-19 outbreak, some difficult decisions had to be made, including temporarily shutting down the various businesses. The fact this pandemic demonstrated different companies from different industries are closely connected all over the world [18].

According to Shafi et al., due to the COVID-19 outbreak and lockdowns, many micro, small, and medium sized enterprises (MSMEs) have been severely affected. Consequently, these businesses are facing a variety of issues such as financial (67.93%), supply chain disruption (47.83%), decrease in demand (44.02%), and reduction in sales and profit (38.04%, 41.85%, respectively) [19].

According to MetLife, 70% of small businesses are concerned about financial hardships due to prolonged closures, and 58% worry about permanently closing. Small companies that temporarily closed are more likely to reopen [20]. However, small businesses are still concerned about financial hardship due to prolonged closures. 70% have temporarily closed, and 58% have about permanently closed. 32% of the bakeries are preparing for a second wave to purchase additional supplies to prevent a shortage in the future.

Studies said restrictions due to COVID-19 showed no significant differences in consumer behavior and attitudes based on socio-demographic descriptors. However, the mindset of consumers was able to identify the most discriminating elements. The mentality of the consumers who consider bakery products, the purchase method, and even being at the store has a higher risk of a potential infection [21].

### Methodology

The paper conducts a literature review to identify the challenges of each Bakery in the Philippines. The literature review gathers information from various research articles and databases such as google scholar, open access journals, and other websites. In this methodology, the researchers will show the challenges of each Bakery before and during the pandemic globally. The researchers provided inclusion and exclusion criteria to the scope of the study. Inclusion criteria, including the status, operations and situation of the bakeries globally during COVID-19. Food security is involved in this literature review because it has a relation to how it affects consumers of this pandemic [22]. All bakery operations include retailers, wholesalers, home bakeries, etc. [23]. Studies said there is a significant

relationship between product and service quality and customer satisfaction. The quality of service practices can meet customer satisfaction [15] Exclusion criteria, excluding the demographic profiles of consumers, participants, and entrepreneurs, exact locations of the bakeries, specific price of the product, and food security from agricultural sectors (Figure 1).

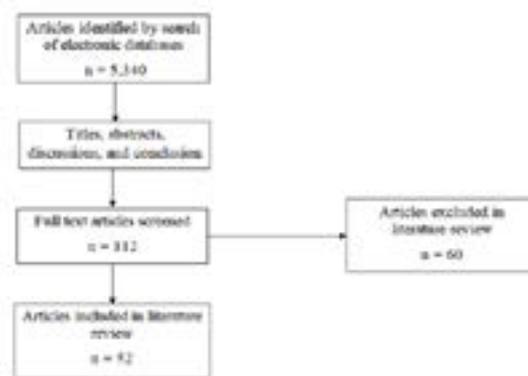


Figure 1: Flow diagram of identified studies

### Results and Discussion

Table 1 shows the different locations of bakeries that COVID impacted-19, including North America [24,25] South America [26,27] Asia [28-31], Europe [32,33], Africa [34] and Australia [35]. The food industry experienced the increasing value of a product due to affecting supply and demand and delayed distribution from the suppliers and retailers. Some stores were unable to continue running their business.

Table 2 shows the bakeries encountered different challenges in bakery operations in terms of production [36-40], services [41,42], food supply chain [39,43], and sales [38,44,45]. Disruption of products and services and transportation restrictions affect the food supply chain, increasing product prices, and expired products. From in customer's perspective, their satisfaction [38] and behavior [39,46] have a significant relation to the security of a product. Customers are conscious of buying bakery products because of the higher risk of exposure.

Table 3 shows the implementations of the proposed method of bakery operations to innovate adjustments and further stability in business by establishing stores for production to increase sales. Online food delivery in service because it helps to continue the services by giving response to the customers through social media [47-50]. Secured packaging for food security [41,50] to eradicate the customers' anxiousness regarding its hygiene and quality packaging.

Locations	Impacts of COVID - 19	Studies
North America	<ul style="list-style-type: none"> <li>- The COVID-19 affected all dimensions of food security. It has caused disruptions by decreasing the availability of food items.                             <ul style="list-style-type: none"> <li>- It affects food production and distribution of high-value products.</li> <li>- It affects the reduction of supply and demand on the market.</li> <li>- It affects public health, employees in food services, and the supply chain.</li> <li>- Grocery stores installed protective plastic shields to protect cashiers.</li> </ul> </li> <li>- Short-term problems due to transportation shortages affect restaurants and bakeries.                             <ul style="list-style-type: none"> <li>- Enhancing protocols for maintaining safe distances between customers.</li> </ul> </li> <li>- Stores and supermarkets were evolving higher sales in the food retailing sector.                             <ul style="list-style-type: none"> <li>- They changed the food purchasing of individuals.</li> </ul> </li> </ul>	[24,25]

South America	<ul style="list-style-type: none"> <li>- They prioritized social distancing to avoid COVID – 19 transmissions.</li> <li>- It affects food systems but expands food security to avoid serious consequences.</li> <li>- It impacts the food industry that has been affected by the closures of stores</li> </ul>	[26, 27]
Asia	<ul style="list-style-type: none"> <li>- Food prices are increasing due to the pandemic lockdown. It results from those poor people being unable to buy due to their insufficient incomes, which affects the food market.</li> <li>- The foodservice industry may decrease, and it affects other the sales of the supplier.</li> <li>- The number of employees has decreased in wholesale and retail trade, food services, social work, etc.</li> <li>- Food security has a variety of protocols to prevent health risks like foodborne.</li> </ul>	[28,29,31]
Europe	<ul style="list-style-type: none"> <li>- Food buying has been affected.</li> <li>- Mental health is affected when buying food.</li> <li>- Some retailers are facing challenges during COVID – 19.</li> </ul>	[32,33]
Africa	<ul style="list-style-type: none"> <li>- Some small companies were more affected, and more difficult to recover during the pandemic.</li> <li>- They need to pay firms at higher prices to continue running a business. Such as manufacturers of bakeries that are affected.</li> </ul>	[34]
Australia	<ul style="list-style-type: none"> <li>- Consumers are feared of not being able to access food that can disrupt the food system. It resulted in consumers in panic buying to avoid loss of food supply.</li> </ul>	[35]

**Table 1:** The different locations of food industries have been affected by the COVID - 19 situation

Challenges		Impacts of COVID – 19	Studies
Bakery operations	Production	The pandemic has a negative impact due to disruptions of production activities that can affect the global supply chain. It requires increasing the product prices to level the delivery service fee. They changed a product strategy where it depends on the consumers' demand. Products are not mostly sold physically due to restrictions and safety. Some small businesses have temporarily shut down due to a lack of knowledge of online delivery.	[9,36-40]
	Services	Bakeries lessen their service due to the contagious fear of consumers. Restrictions of transportation networks cause significant disruptions and delays in distributing foods among suppliers, retailers, and wholesalers.	[41,42]
	Food supply chain	It disrupts the food supply chain availability. It increases the number of expired products due to restrictions. It causes delays for the food distributors.	[39,40]
	Sales	The price of the product was increased during the lockdown. During the first pandemic outbreak, bakery products are in demand. After the pandemic, bakery products are minor food preferences or consumption. Sales of bakery products are highly decreased.	[39,44,45]
Customer perspective	Customer satisfaction	It becomes more challenging to meet the expectation concerning products or services. Bakery products have the highest impact on consumer satisfaction unless secured or packed.	[36]
	Customer behavior	Some customers are not purchasing baked goods to be health-conscious. It increased the risk of food exposure due to the pandemic.	[39,46]

**Table 2:** Bakeries encountered different challenges in bakery product and service management during the pandemic.

Bakery Operation	Proposed Methods	Benefits	Studies
Production	Established stores	Bakery stores should establish another branch to make it easier by increasing sales and more convenient for the customers.	[47]
Services	Online food delivery	Bakeries are engaging online to continue giving service to customers on every social media. It helps the consumers to continue buying products without needing physical contact with sellers. There will be an increase in sales if the online food delivery is modified.	[47,49]

Food security	Secured packaging	Stores suggested developing packaging food to preserve quality and safety on delivery. Food safety and hygiene practices are needed for food processing and preparation.	[41,50]
---------------	-------------------	--	---------

**Table 3:** Proposed methods of bakery operations to continuously run a business in the pandemic situation.

### Conclusion

The COVID-19 has brought the worst impacts to several food industries worldwide, including bakeries. The government provides various health protocols to avoid people by health risks from food. Due to many restrictions, services, productions, and sales are affected. The increasing price of bakery products from retailers, wholesalers, and even manufacturers was affected due to several restrictions. Other bakeries could not continue the business because they needed to pay higher firms.

On the other hand, several bakeries that lack knowledge of social media are temporarily shut down. Service and production strategies have changed to meet the expectations of the consumers. Consumers experienced food risks, and studies proved that customer behavior and satisfaction have no significant relation in terms of restrictions by the government since it was implemented. However, consumers expect higher demand that bakeries develop hygiene practices and safe packaging to avoid COVID-19. In conclusion, some bakeries have several proposed methods to sustain the bakery business. Studies said that establishing stores can help the continuous production of bakeries. Convenience is one of the factors that help customers to buy their products. Social media services can help continue the business since they include customer engagements. The demand for food security necessitates secured packaging should be enhanced to lessen the fear and anxiety of customers, which safe packaging lessens health risks. Therefore, the researchers concluded that proposed methods, strategies, and adjustments could overcome the challenges of quality services and products of the bakery stores.

### References

- Hansen ZNL, Jacobsen P (2013) Challenges facing the food industry examples from the baked goods sector. *Social Sci* 47: 1-4.
- Tefula M (2017) What is entrepreneurship? *Graduate Entrepreneurship*, 9-12.
- Gutterman AS (2012) Definitions of entrepreneurship. *Entrepreneurship* 13: 257-260.
- Legaspi JLR (2018) Management accounting practices of the Philippines small and medium-sized enterprises. *EJBEA*, 6(3): 71-91.
- Gumaste R, Shende K, Shah GPH (2021) A comparative study of commercial bakers and home bakers: A consumer's perspective. *Care Group* 117: 72-78.
- Ashish Shimpi (2008) A Study on service quality and customer satisfaction for selection of customer. *KJ-HSM* 9(1): 131-146.
- Trattner AL, Herbert HZNL, Hvam L (2018) Product wheels for scheduling in the baking industry: A case study. *Int J Product Manag Engg* 6(2): 65.
- Marketing strategies of bakery operators.
- Nindiani A, Hamsal M, Purba HH (2018) Product and service quality analysis: An empirical study of customer satisfaction in a bakery. *Binus Business Rev* 9(2): 95-103.
- Niewyk DL, Nicosia FR (2016) The Behavior of Bystanders. *The Columbia Guide to the Holocaust*.
- Telukdarie A, Munsamy M, Mohlala P (2020) Analysis of the impact of covid-19 on the food and beverages manufacturing sector. *Sustainability* 12(22): 1-22.
- IFIC (2020) Impact on food purchasing, eating behaviors, and perceptions of food safety.
- Utepbergenov I, Kalimoldaev M, Skliarova I, Wójcik W, Toibayeva S, et al. (2018) Inteligentny system zarządzania produkcją i jakością produktów dla małych i średnich przedsiębiorstw. *Electrotech Rev* 94(1): 152-156.
- Jibi Ghimire A (2017) Service quality and customer satisfaction in the restaurant business. *Applied Sci*
- Okoth MA (2019) Service quality and customer satisfaction in bakeries in nairobi central business district.
- Muhammad AMi. (2018). Capital budgeting analysis in digital marketing activities at yes cake, bakery. *Int J Business Manag Res* 8(6): 1-8.
- Jurnal T, Dan S, Dwi R, Awandani H, Alfatah M (2021) Optimization of supply and demand of bread sales as an over-production solution in hani cake and bakery. *J Sci Tech* 17(02): 255-261.
- Aday S, Aday MS (2020) Impact of COVID-19 on the food supply chain. *Food Qual Saf* 4(4): 167-180.
- Shafi M, Liu J, Ren W (2020) Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan. *Res Global* 2(1): 10008.
- MetLife and U.S (2020) Chamber of commerce small business coronavirus impact poll small businesses see grounds for cautious optimism.
- Biró B, Gere A (2021) Purchasing bakery goods during COVID-19: A mind genomics cartography of hungarian consumers. *Agronomy* 11(8): 2-11.
- UN (2020) Impact of COVID-19 on food security and nutrition (FSN).
- WebstaurantStore. Types of bakeries to choose from when starting a business.
- Zielińska CA, Mruk TD, Wielicka RA (2021) Qualitative research on solving difficulties in maintaining continuity of food supply chain on the meat market during the COVID-19 pandemic. *Energies* 14(18) 2-19.
- Goddard E (2020) The impact of COVID-19 on food retail and foodservice in Canada: Preliminary assessment. *Canadian J Agri Econom* 68(2): 157-161.
- Ferreira RJ, Cunha SFMT, Aparecida de OLE, Brandenburg SI, Barcelos AF, et al. (2021) Effect of the COVID-19 pandemic on food habits and perceptions: A study with Brazilians. *Trends Food Sci Technol* 116: 992-1001.
- Ganem F, Mendes FM, de Oliveira SB, Porto VBG, de Araújo WN, et al. (2020) The impact of early social distancing at COVID-19 out-

- break in the largest metropolitan area of Brazil. *MedRxiv*.
28. Sharma GD, Talan G, Jain M (2020) Policy response to the economic challenge from COVID-19 in India: A qualitative enquiry. *J Public Aff* 20(4): 1-16.
  29. Kim S, Shin S (2021) Examining impact of COVID-19 on sales for foodservice industry and regional heterogeneity: A case study of Korea.
  30. Shinozaki S, Rao LN (2021) Under The Lockdown: Evidence.
  31. Han S, Roy PK, Hossain MI, Byun KH, Choi C, et al. (2021) COVID-19 pandemic crisis and food safety: Implications and inactivation strategies. *Trends Food Sci Technol* 109: 25–36.
  32. Ben HT, El Bilali H, Allahyari MS, Berjan S, Fotina O (2021) Food purchase and eating behavior during the COVID-19 pandemic: A cross-sectional survey of Russian adults. *Appetite* 165: 105309.
  33. Pantano E, Pizzi G, Scarpi D, Dennis C (2020) Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak. *J Bus Res* 116: 209–213.
  34. Baumüller H, Kubik Z, Dallimore A, Getahun TD, Velia M (2021) Impact of Covid-19 on Africa's food and beverage manufacturing companies: Evidence from selected African countries.
  35. Whelan J, Brown AD, Coller L, Strugnell C, Allender S, et al. (2021) The impact of covid-19 on rural food supply and demand in Australia: Utilising group model building to identify retailer and customer perspectives. *Nutrients* 13(2): 1–11.
  36. Brandtner P, Darbanian F, Falatouri T, Udokwu C (2021) Impact of COVID-19 on the customer end of retail supply chains: A big data analysis of consumer satisfaction. *Sustainability* 13(3): 1–18.
  37. Purnamasari DI, Heriyanto H (2020) Qualitative research the use of online applications as a consequence of covid-19 pandemic. *Proceeding LPPM* 1(1): 77–84.
  38. Hillen J (2021) Online food prices during the COVID-19 pandemic. *Agribusiness* 37(1): 91–107.
  39. Béné C (2020) The resilience of local food systems and links to food security: A review of some important concepts in the context of COVID-19 and other shocks. *Food Security* 12(4): 805–822.
  40. Purvam imaans an impact of lockdown on small businesses: A study of kurukshetra district of Haryana ritesh renu sharma.
  41. Gavilan D, Balderas CA, Fernández LS, Martínez NG (2021) Innovation in online food delivery: Learnings from COVID-19. *Int J Gastron Food Sci* 24: 100330.
  42. Montenegro LD, Young MN (2020) Operational challenges in the food industry and supply chain during the covid-19 pandemic: A literature review. *ICFIE* 1–5.
  43. Chowdhury MT, Sarkar A, Paul SK, Moktadir MA (2020) A case study on strategies to deal with the impacts of the COVID-19 pandemic in the food and beverage industry. *Oper Manag Res* 10: 166–169.
  44. Celik B, Dane S (2020) The effects of COVID-19 pandemic outbreak on food consumption preferences and their causes. *J Res Med Dent Sci* 8(3): 169–173.
  45. Buying I (2021) QuarantEat, a cross-sectional study.
  46. Laguna L, Fiszman S, Puerta P, Chaya C, Tárrega A (2020) The impact of COVID-19 lockdown on food priorities. Results from a preliminary study using social media and an online survey with Spanish consumers. *Food Qual Prefer* 86: 104028.
  47. Fusté FF, Filimon N (2021) Using social media to preserve consumers' awareness of food identity in times of crisis: The case of bakeries. *Int J Environ Res Public Health* 18(12): 6251.
  48. Phillipneris AMS (2021) Initiatives within the context of covid-19 crisis.
  49. Hasanah U, Nurulita VW, Budiman A, Kanita GG, Studi P, et al. (2021) Analysis of marketing communication strategies in increasing sales volume of rini's cake during the covid-19 pandemic. *J Soc Entrepreneurship* 1: 6–11.
  50. Knorr D, Khoo CSH (2020) COVID-19 and food: Challenges and research needs. *Front Nutr* 7: 1–5.