

Technological Growth Impacting The Restaurant Businesses

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Abstract:

This research paper delves into the dynamic impact of technology on the restaurant industry, with a specific focus on the evolution of cloud kitchens amidst the backdrop of the covid-19 pandemic. It combines insights from secondary sources, including research papers and news articles, and employs a comprehensive pestle framework analysis to unveil the strategic dynamics of cloud kitchens. Within these virtual culinary spaces, commonly known as 'ghost kitchens,' the paper also explores their cost-effective and innovative essence, showcasing how technology plays a pivotal role in vital aspects such as order processing, inventory management, and adapting to the changing preferences of customers. Additionally, the study examines the shift from traditional dine-in models to a more delivery-centric approach, shedding light on the intricate challenges faced by restaurants. These challenges encompass not only substantial capital requirements but also the operational considerations that arise in this transformative landscape.

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I. Introduction:

At present, India boasts a thriving community of more than 3,500 cloud kitchens. As indicated by a recent report from RedSeer Management Consulting, the cloud kitchen sector is poised to grow into a \$2 billion industry in India by 2024, marking a substantial surge from its \$400 million valuation in 2019. In today's fast-paced world,¹ technological advancements have been a driving force behind successful businesses and organizations. The technological boost has made its advantage through several factors, such as improving business agility by responding to quick changes in the market, increasing the efficiency of products, reducing costs while businesses multiply and have a smoother way of reaching a global audience with the help of social media and advertising worldwide. As tech becomes more advanced, its role within the business also continues to grow. Through the rise of technology, companies from all over the world are looking to harness it in order to improve workforce, build brand recognition and make it easier for businesses to expand their company to a global scale. Just like many other industries, restaurants are also exploring innovative ways to implement cutting-edge technology in their operations. Especially during the 2020 pandemic, many restaurants were forced to shut down and hence also decided to shift to delivery service. The pandemic accelerated the acceptance of technology among customers, particularly in utilizing apps for placing orders and QR codes for menus. Through the use of delivery services, the food delivery market sizes are expected to show an annual growth rate of 16.95 % and reach a revenue of \$43.7 bn in India.

The rise of cloud kitchens itself is an example of how technology is revolutionizing the food industry, where the concept of home kitchens are used instead of a physical dining space and rely on technology to receive orders, payments and deliver to needs. It's poised to grow at an annual growth of 24% compoundly and estimated at INR 65.35 bn in 2022 according to the Economic Times.² This research paper focuses on how the use of technology has changed the way restaurants, like cloud kitchens work, where they position themselves in the market and how it's impacted the restaurant industry's performance after the COVID-19 pandemic.

II. Methodology:

This research article will explore and understand how the COVID-19 pandemic has affected restaurant operating tactics through the introduction of the notion of cloud kitchens. This paper will be backed by secondary sources such as published research papers discussing the same topic, news stories from the Times of India and Economic Times for qualitative data. The pestle framework was also used in order to obtain a strategic analysis and a thorough understanding of cloud kitchens.

¹ <https://blog.petpooja.com/top-best-cloud-kitchen-in-india/>

² <https://retail.economictimes.indiatimes.com/blog/how-technology-is-revolutionizing-the-food-industry-with-the-rise-of-cloud-kitchens/100293055>

III. Cloud kitchen:

Following the 2008 financial crisis, a number of upscale restaurants went out of business and were replaced by food trucks. Food trucks were able to serve numerous locations since they were more cost-effective and mobile. The restaurant industry began preparing meals online because of technological improvements in recent years. Orders were first placed through social media platforms, and then creative management strategies were used to establish food delivery apps. Faasos was a pioneer in this field, run and established by rebel foods in india in 2011. The emergence of these innovations rendered the sit-in eateries of today insufficient and inefficient to satisfy people's excessive appetites.

Cloud kitchens, also known as 'ghost kitchens' by many are small shared kitchen spaces that allow them to cook food, rented by local food chains, chefs, and restaurants to boost their businesses. They're economically more affordable than owning and running a restaurant.

Cloud kitchen prioritizes the preparation and distribution of meals by leveraging technology and web-based ordering systems. Given that cloud kitchens don't have a real dining area where customers can eat, they depend mostly on technology and data analytics to manage inventory, track customer preferences, and optimize operations which sets it apart from other online meal delivery services.

What sets cloud kitchen differently from any other traditional restaurants is its innovative way of adding a modern twist to traditional restaurants while also saving up on operational costs. While other restaurants require a physical dine in space with a kitchen, staff, a waiting area and bars, while on the other hand sales dominantly made from only delivering food to customers from the comfort of their home or required area. This also provides flexibility as well as job opportunities for anyone, from home food providers to fast food restaurants to convert or open into a cloud kitchen. Before covid, the dine-in segment accounted for 70% of restaurant revenue, with deliveries accounting for the remaining 30%, although since the rise of covid, restaurant owners had to go through major business restructuring to meet business demands and switch to delivery companies or close their restaurants. According to a kpmg analysis from 2018, the uae's cloud kitchen recorded year on year growth in the uae. Likewise, in india, cloud kitchens on major food delivery apps such as zomato and swiggy tripled between fy19 and fy21 and jumped by 32% according to the economics times.

IV. Pestle analysis of cloud kitchen:

Political	Governments overseeing food safety standards, licensing and permits have an impact on operating as a cloud kitchen. Moreover, taxation policies within the food industry can hinder operational costs, pricing strategies and profit maximization. An example is fssai spreading food awareness about food safety and best practices for consumers and food businesses. ³
Economical	Enhancing employment opportunities within the economy is crucial for addressing unemployment concerns. As of july 2023, forbes reported that india's unemployment rate stands at approximately 8%. ⁴ one effective strategy to bolster job creation involves the establishment of cloud kitchens, which can significantly contribute to generating employment opportunities for individuals seeking work.
Social	Since covid-19 has impacted the whole market, consumer perceptions have also changed. They've become spoiled with choices and quicker experiences along with high demand for quality and sumptuous food while adherence to hygiene practices.
Technological	Reliance on technology to receive orders, prepare food and dispatch it for delivery and pickup. Eliminates the need for restaurants to have a physical dining space and allows them to handle a large volume of orders from multiple different brands.
Legal	Most cloud kitchens must be required to enter into a lease agreement with the owner before renting a kitchen and commercial properties have now started operating exclusively for the purpose of leasing cloud kitchens. As per food safety and standards, only fresh food should be delivered to customers
Environmental	Sustainable practices - eco-friendly substitutes like bioplastic containers, bamboo cutlery, and reusable packaging solutions are being tested by a number of cloud kitchens. A 2022 study by swan stated that 26,000 tonnes of plastic were wasted on a daily basis through packaging and supply of cutlery. Due to their reliance on delivery, a large number of cloud kitchens significantly contribute to this issue.

³ <https://medium.com/@charulsethia409/role-of-indian-government-in-food-safety-9ba585b76a10#:~:text=The%20role%20of%20the%20government,ands%20food%20businesses%20as%20well>.

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<https://www.forbesindia.com/article/explainers/unemployment-rate-in-india/87441/>

V.Challenges faced by restaurants transitioning into a cloud kitchen

The emergence of cloud kitchens has increased competition in the market, pushing kitchens to set themselves apart with unique offers and promotional strategies as well as high quality food and service. Transitioning into a cloud kitchen also requires a huge amount of capital in order to set up eateries and build on connections with other restaurants. According to the restaurant times, leasing an area of around 150-300 sq ft is approximately 1 lakh rs. Per month and the cost for the equipment required will also add up to 3.4-5 lakhs. Additional cost for registering, getting a license, maintenance of running the cloud kitchen as well as employing staff members and partnering with third party aggregators such as zomato or swiggy should also be taken into consideration. Although it still has lower operational cost compared to opening up a restaurant and easier to expand, more challenges come such as having a limited brand presence and a smaller audience reach.

VI.Opportunities and potential growth for cloud kitchens

The integration of technology gives opportunities for cloud kitchens to grow and succeed through embracing online digital platforms. The online food delivery market is expected to grow at an annual rate of 10.06% by 2028 according to data provided by statista.⁵ by reducing errors and streamlining communication, technology is also used to improve efficiency. This makes it easier for kitchen staff to work effectively. Additionally, by implementing smart energy management systems and sustainable practices in the kitchen, restaurants can satisfy environmentally conscious customers especially after the rise of covid -19.



VII.Conclusion:

In conclusion, this research has unveiled the transformative impact of technology and exemplified the rise of cloud kitchens. The paper emphasizes on the key findings of how technological integration has enhanced operational efficiency and provides opportunities for culinary innovation in the digital landscape. As cloud kitchens emerged, traditional restaurant norms shifted, adapted to changing consumer behaviors and prioritized online ordering and delivery after the covid-19 epidemic. Going forward, it seems that restaurants will continue to evolve towards digital platforms and creative solutions as their technological trajectory becomes more and more intertwined. The pandemic served as an opportunity for the quick adoption of digital survival techniques, which are now positioned to have a significant and long-lasting influence on the restaurant industry's future. Cloud kitchens can efficiently meet growing demands by maximizing their kitchen space and logistics and leverage the power of technology to ensure that their products and services constantly align with evolving customer preferences. Globally, the market size for cloud kitchens is anticipating an expansion at an annual growth rate of 10.66% and expected to reach \$174.66 billion by 2032.

⁵ <https://www.statista.com/outlook/dmo/online-food-delivery/worldwide>

⁶ <https://www.precedenceresearch.com/cloud-kitchen-market>