



# CLOUD KITCHEN : THE FUTURE OF RESTAURANT BUSINESS

**To study the advantages and challenges faced by cloud kitchen.**

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## Abstract

With today's technology advances, it's no surprise that the future of food is shifting towards automation. Because of increased competition and ever-evolving technology, the food business has seen various technological improvements. The notion of Cloud Kitchen has emerged as a prominent force in the restaurant sector, making a significant impact on the worldwide dining landscape in recent times.

A cloud kitchen, sometimes referred to as a ghost kitchen, dark kitchen, or virtual kitchen, is a commercial culinary facility whereby restaurants have the capability to prepare menu items specifically intended for takeout and delivery services. In contrast to conventional physical dining establishments, cloud kitchens enable for the manufacture and distribution of food goods with little overhead and maintenance expenses through the use of a food delivery application.

*Keywords: Cloud kitchen, Food business, Restaurant, Food delivery*

## Introduction

All industries are starting to be impacted by technology. The restaurant industry is similar. Restaurants used to be low tech, family-owned businesses that were operated by mom and pop. However, restaurants today are quite technological. The restaurant business model today incorporates a number of improvements. One such innovation is the "Cloud-Kitchen".

A cloud kitchen is a concept for a delivery-only restaurant that has a takeaway counter but no real establishment. It's a restaurant kitchen, but there isn't a dining room or normal restaurant here; only delivery orders are accepted. It is simply a functioning kitchen that acts as a production line for food preparation. The terms "cloud kitchen," "Ghost kitchen," "gloomy kitchen," and "virtual kitchen" are used to characterise these types of kitchens where customers can make orders online utilising an online food aggregator or restaurant applications. Cloud kitchens have emerged as a valuable tool for businesses seeking to expand their physical presence or establish a digital

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brand. This provides restaurants with the opportunity to broaden their reach, explore untapped markets, or experiment with innovative ideas. Cloud kitchens are frequently employed by restaurants as a controlled environment for experimentation, allowing them to test novel concepts while simultaneously optimising their workforce and inventory management.

Cloud kitchens have emerged as a valuable tool for businesses seeking to expand their physical presence or establish a digital brand. This provides restaurants with the opportunity to broaden their reach, explore untapped markets, or experiment with innovative ideas. Cloud kitchens are frequently employed by restaurants as a controlled environment for experimentation, allowing them to test novel concepts while simultaneously optimising their workforce and inventory management. The India cloud kitchen market is anticipated to develop at a compound annual growth rate (CAGR) of 14.9% from 2023 to 2028, according to the most recent study from IMARC Group, "Cloud Kitchen Market Size in India, Share, Growth, Industry Trends, Opportunity and Forecast 2023-2028".

## **TYPES OF BUSINESS MODELS FOR CLOUD KITCHEN**

Every cloud kitchen operates in the same way: after receiving an order, food is prepared and delivered to the customer's door. Their methods for conducting business, however, are different. There are numerous business models for these restaurants that only offer delivery. Following are a few of them:

- Standalone cloud kitchens refer to independent culinary facilities that do not possess a dedicated area for eating and are exclusively owned or leased by a singular brand. These dining establishments frequently specialise in a particular culinary tradition and collaborate with many food suppliers or distribution services.
- The multi-brand cloud kitchen business concept is designed to optimise operating costs by consolidating numerous brands under a single parent firm, therefore enabling them to utilise a common kitchen facility. Every brand or restaurant offers distinct culinary offerings and accommodates diverse customer tastes, all inside a shared expansive cooking facility.
- The commissary kitchen, also known as an aggregator kitchen, has emerged as a response to the growing online delivery industry. In this model, delivery aggregators provide restaurant owners the opportunity to rent unused kitchen space and essential equipment. Restaurants have the option to utilise either fully equipped or shell kitchens, based on their specific requirements. Put differently, a multitude of restaurant brands have the ability to prepare food concurrently within a spacious kitchen that is capable of accommodating several smaller kitchens.
- The idea of an outsourced cloud kitchen entails the delegation of nearly all operational tasks of a restaurant, with the exception of final preparations, to other entities. Prior to the delivery of the dish, the chef applies a last embellishment. All additional duties, such as food preparation and client interactions, are contracted out.
- A co-working cloud kitchen refers to a spacious kitchen infrastructure that can be leased and utilised by many restaurant businesses for their operational needs. The aforementioned regions are properly situated, and every cooking unit of each brand is equipped with the requisite tools and facilities.

## **A List of the Top Cloud Kitchen Franchise Opportunities in India**

### **1. Nomad**

Nomad Pizza launched in September 2019 and has since grown into a successful cloud kitchen in India. It was founded by Mr. Amit Ajwani. Nomad Pizza became one of the fastest-growing pizza delivery brands in Delhi with its initial business strategy and began expanding its stores. They are well-known for its specialised pizza, which includes versions from 11 various countries ranging from America to Korea. It is also well-known for its freshness and quality, which has helped the brand gain a large client base.

## 2. 99 Rotiwala

99 Rotiwala was one of the first cloud kitchen brands in Central India. It debuted in the market in 2018 by entrepreneur Rishabh Joshi, with its first location in Indore, MP. It is now one of Madhya Pradesh's leading cloud kitchen brands. Its family-friendly cuisine, low prices, and high quality have helped it to achieve great success. It is well known for its affordability, with everything priced at INR 99. 99 Rotiwala is offering an incredible franchise opportunity to entrepreneurs in Madhya Pradesh.

## 3. Kouzina's

Kouzina Food Tech is a leading virtual restaurant powered by technology. It is a well-known brand in the cloud kitchen market. It operates a network of over 3000 virtual restaurants and 150 cloud kitchens in over 80 Indian locations. It is well-known for its creative food products, business style, and high-quality meal services. Kouzina has a well-established franchise network and offers franchise partners help and business ideas.

## 4. Rebel

"Excellent food meets great tech."

Jaydeep Barman founded Rebel, the world's largest network of internet eateries, in 2011. It is well-known for striking a balance between food and technology, employing technology as a means of delivering high-quality meals to its clients. In India, Rebel is a well-known cloud kitchen brand. They are experts in consumer-centric techniques, developing a cuisine model that caters to every customer mood. Rebel aspires to be India's favourite culinary brand while revolutionising the cloud kitchen sector. It has a network of over 4000 online eateries in 70 locations across India.

## 5. The Knight Bite

Knight Bite began to cater to the nocturnal, or night owls as we call them. It is a well-known cloud kitchen brand that prioritises cuisine, technology, and logistics. It was started in 2017 by Saif Bakhar. It has reached out to the underprivileged segments of society and assisted them in satisfying their late-night eating desires. With 5,000 user downloads in just two weeks, the software quickly became popular. Knight Bite aspires to serve exceptional food in various cities across India and bring smiles to people's faces.

## 6. Freshnom Kitchen

Freshnom is a well-known cloud-based tiffin delivery service. It began in Nasik in 2016 and has since delivered over 3 lakh tiffins. It is well-known for its original flavour, freshness, and low cost. Freshnom has a foothold in two locations in Maharashtra and is presently increasing its reach throughout India. It offers its consumers the comforts of home in a bowl. Its target audience is diverse, with vegetarian, non-vegetarian, and corporate meals all included in the plan. It also offers an AI-powered tool to help you plan your diet based on your height and weight requirements and give you with a food plan.

## 7. Cloud kitchen in London Yard

London Yard is a well-known pizza-based cloud kitchen chain in India. It was founded by Anand Thakkar after he visited London and was inspired by the many pizza-making styles and their real taste. It is well-known for its monster pizza, which is a 30-inch pizza treat. It's also well-known for its cream cheese, jharoka, and farm-fresh pizza selections. To ensure maximum client pleasure, London Yard believes that each pizza has a distinct flavour and preparation style.

## Objectives

To study the benefits and challenges faced by cloud kitchen.

To research the necessary technologies and licences for operating cloud kitchen.

## THE BENEFITS OF CLOUD KITCHEN

A virtual kitchen, often referred to as a cloud kitchen or a ghost kitchen, presents a viable alternative to the conventional physical restaurant establishment. Ghost kitchens provide a means for clients to concentrate on food production and product marketing, while simultaneously mitigating the challenges associated with administrative intricacies and logistical barriers that sometimes impede the progress of the food industry. Cloud kitchens provide several advantages, such as:

Why The utilisation of a cloud kitchen significantly reduces the operational costs often incurred in operating a traditional restaurant. Cloud kitchens, in principle, exhibit cost reductions and a competitive advantage over conventional brick-and-mortar restaurants across several cost dimensions, encompassing infrastructure, administrative expenses, logistics, and similar aspects.

A cloud kitchen has the potential to be organised as a highly efficient business model, characterised by minimal staff and infrastructure requirements, hence minimising financial risk. A cloud kitchen requires significantly lower initial capital compared to a traditional brick-and-mortar restaurant.

- **Less Human Resources Needed:** Because there is no need to rent a restaurant in a prime location or pay workers to serve guests, operating a cloud kitchen takes one-third the time and resources of launching a traditional dine-in restaurant.
- **Establishing a high-profit venture -** The initiation of a cloud kitchen necessitates little human resources, essential cooking equipment, furnishings expenses, and decorative fees. This feature enhances the profitability of the enterprise by affording restaurant proprietors the opportunity to engage in experimentation, reduce expenses, and progressively attain a state of financial equilibrium in their operations.

The overall capital investment for a kitchen-limited operation is significantly cheaper compared to that of a full-service restaurant. Restaurants have the potential to utilise the scale of cloud kitchens as a means to experiment with new markets and gauge consumer perceptions, all while avoiding the financial burden of investing in equipment.

## CHALLENGES

- **Inadequate Operational Structure:** The success of a ghost kitchen business is dependent on the proper application of operational processes. Cloud kitchen operators frequently underestimate the significance of developing Standard Operating Procedures (SOPs), resulting in inadequate management and operational control. Adherence to SOPs is critical to the long-term survival of a cloud kitchen business. SOPs that are well-defined standardise fundamental operational processes, speeding the delivery process and ensuring consistency, which is critical for corporate success.
- **Inefficient Food Costing:** Proper food costing is an important part of running a delivery-only restaurant. Inflationary food costs might be a serious concern even within the favourable dynamics of cloud kitchens. A lack of standardisation in food preparation, insufficient inventory management, and food waste are all factors that contribute to this problem. By tracking inventory, sales, and hidden costs, a standardised food cost system and an investment in a comprehensive Point of Sale (POS) system can help offset these difficulties.
- **Inconsistency:** In a competitive climate where client loyalty is crucial, consistency is critical for cloud kitchen organisations. Establishing and following standard restaurant operation norms is critical for providing consistent food and services, eventually improving customer retention and brand loyalty.
- **Ineffective Menu Pricing and Planning:** Because food delivery businesses have such small profit margins, precise menu pricing and planning are critical for cloud kitchen success. Partnerships with third-party delivery systems may increase order capacity, but they frequently come with expensive commissions that have a negative impact on profitability. Strategic pricing based on factors such as demand and food costs, as well as menu revisions based on order volume, can help maximise earnings.
- **Poor Financial Planning:** While the initial costs of launching a cloud kitchen may be lower than traditional restaurants, comprehensive financial planning remains essential for long-term success. Underestimating

working capital needs, particularly for scaling operations and expanding market share, is a common mistake. Developing a robust business plan, setting aside adequate working capital, and creating contingency funds for unexpected situations are critical components of financial planning.

- **Lack of Emphasis on Technology:** Technology plays a pivotal role in the growth of ghost kitchen businesses. Investing in restaurant tech and advanced equipment is even more critical for cloud kitchens than for dine-in establishments. Failing to implement efficient ordering systems, delivery networks, kitchen automation, logistics support, and customer service technology can significantly affect the overall efficiency and sustainability of a virtual restaurant. Therefore, substantial investment in technology and automation is imperative for improved productivity.
- **Limited Customer Interaction:** Because cloud kitchens generally function through online platforms, direct customer interaction is limited. Delivery-only restaurants may struggle to grasp client perceptions if they do not offer a physical dine-in option. It is critical to build a personal relationship with clients in order to overcome this difficulty. Engaging customers on social media, offering behind-the-scenes video, and notifying them of developments and special offers can help build a strong and loyal customer base.
- **Poor Hygiene:** Despite the absence of demanding clients on-site, maintaining high hygiene standards is a must. To ensure food safety and client pleasure, cloud kitchen owners must adhere to strict sanitation and maintenance practises.
- **Inadequate Equipment Safety Standards:** During peak hours, cloud kitchen conditions can become chaotic, raising the risk of accidents. Slippery, wet, or oily floors can cause accidents. Employee safety must be prioritised by owners and managers by installing additional safety measures and maintaining safe working conditions in the shared workspace.

### **Several factors are contributing to the growing popularity of cloud kitchens in India.**

- People's hectic lifestyles and rapid urbanisation increased the desire for quick and easy meals.
- The success of online meal delivery services such as Swiggy, Zomato, and Uber Eats, which was acquired by Zomato, fueled the emergence of cloud kitchens.
- Cloud kitchens eliminated the requirement for prime real estate and opulent furnishings, which were previously required for traditional restaurants.
- Cloud kitchens enabled people to experiment with various cuisines and food ideas without being constrained by a physical dining location.
- Cloud kitchens are more efficient than traditional kitchens because they employ technology to manage orders, track supplies, and track deliveries.
- Food business and licence laws were changing, and cloud kitchens frequently found it easier to follow these rules than normal restaurants.
- Cloud kitchens enabled firms to adapt swiftly to changing market trends.

### **Role of technology in cloud kitchen**

An integrated technological infrastructure is crucial for the functioning of a cloud kitchen, as it facilitates the acceptance of online orders, streamlines payment processing, and enables effective monitoring of kitchen operations. The incorporation of inventory management inside this technological system is vital to effectively monitor and replenish materials and supplies in a timely way. Furthermore, the implementation of a comprehensive customer relationship management (CRM) system may effectively facilitate the administration of client orders, preferences, and feedback, so enabling the provision of tailored experiences and enhancing overall customer satisfaction.

An essential prerequisite for the establishment of a cloud kitchen is the implementation of a point of sale (POS) system that possesses the capability to receive orders from several channels, including delivery aggregators and online ordering platforms. The Point of Sale (POS) system should possess the functionality to effectively monitor and oversee inventory in real-time, hence enabling the cloud kitchen to quickly meet customer requests without experiencing ingredient shortages. Furthermore, it is imperative that the cloud kitchen has comprehensive analytics and reporting capabilities in order to enhance operational efficiency and facilitate evidence-based decision-making.

The availability of sales data is of utmost importance in formulating strategies that optimize sales performance. Sales data is a useful resource that offers significant insights into consumer behavior, enabling firms to discern patterns and make well-informed decisions. Through the examination of this data, organizations have the ability to enhance their marketing endeavors, focus on certain consumer groups, and enhance their overall sales success.

While it is crucial to establish partnerships with online food aggregators, it is advisable to contemplate the incorporation of a dedicated restaurant website or mobile application for the purpose of receiving orders, therefore expanding the range of sales channels. The ownership of a restaurant website or mobile application affords greater autonomy in managing the ordering process, hence facilitating the provision of a streamlined and customized encounter for clientele. Moreover, it may facilitate the establishment of a direct rapport with clientele, facilitate the collection of invaluable data, and enhance the efficacy of brand promotion efforts.

Upon receipt of the order, it is promptly updated in the Kitchen Display System (KDS). The kitchen personnel have the ability to promptly access the specifics of an order, including the order information and the designated time for pickup, so enabling them to prepare the order correctly. The use of this approach facilitates the management of kitchen operations, leading to increased efficiency and the ability to identify potential delays in order to further enhance the overall preparation time. The provision of real-time access to order data and pickup times enables kitchen personnel to effectively prioritize their activities and guarantee the timely preparation of orders. This not only enhances client happiness but also facilitates improved coordination between the front-of-house and back-of-house processes. Moreover, the capacity to detect any delays in the duration of preparation can aid in recognizing areas that require enhancement and executing tactics to minimize waiting periods.

### **List of the key permits required to launch a cloud kitchen in India.**

The acquisition of an FSSAI Food Safety & Standards Authority License is a crucial need for the establishment of a cloud kitchen in India. This licence guarantees that the food produced and served in the cloud kitchen adheres to the safety and quality regulations established by the government. Furthermore, the acquisition of a GST registration is of utmost importance as it enables the cloud kitchen to operate within the legal framework and effectively levy taxes on their sales.

The acquisition of a Health/Trade License is an essential prerequisite for establishing a cloud kitchen in India. The licence is granted by the municipal corporation of the locality and serves to verify the cloud kitchen's adherence to health and hygiene requirements. Furthermore, it confirms the cloud kitchen's qualification to participate in food-related commercial endeavors.

The acquisition of an Eating House License is a crucial prerequisite for establishing a cloud kitchen in India. The acquisition of this licence is facilitated by the local law enforcement agency and serves to verify the cloud kitchen's adherence to safety rules and implementation of adequate security protocols. Additionally, the cloud kitchen has the capability to provide meals for on-site consumption, if deemed appropriate.

The compliance with the Shop and Establishment Act is a legal obligation that cloud kitchens in India must adhere to. This measure guarantees that the cloud kitchen adheres to the regulations established by the government, encompassing aspects like as operational hours, personnel well-being, and sanitation criteria. Additionally, it is required that the cloud kitchen be registered with the relevant municipal authorities, therefore

furnishing them with crucial details pertaining to the enterprise. Ensuring adherence to this legislation is of utmost importance in order to sustain the legitimacy and legal recognition of cloud kitchen operations in India.

The registration for Goods and Services Tax (GST) is a crucial necessity for cloud kitchens operating in India. The Goods and Services Tax (GST) is a compulsory tax registration requirement that assures the cloud kitchen is fulfilling its tax obligations with respect to its sales and services. The registration process facilitates governmental oversight of the cloud kitchen's financial activities, so promoting openness and accountability in its business operations. Non-compliance with Goods and Services Tax (GST) registration might lead to the imposition of penalties and legal ramifications for the cloud kitchen.

Obtaining clearance from the Fire Department is an essential need for cloud kitchens operating in India. This clearance guarantees that the cloud kitchen complies with all required fire safety standards and laws. The process include conducting examinations of the kitchen's arrangement, apparatus, and fire suppression mechanisms in order to ascertain the well-being of both staff members and patrons. Noncompliance with the requirement to secure this permit may result in the closure of the establishment or the imposition of fines by the Fire Department, due to the substantial hazard it presents to the safety of the general public.

The acquisition of a signage licence is a crucial need for cloud kitchens operating in India. This licensing agreement guarantees that the cloud kitchen is equipped with appropriate signs that clearly indicates its establishment and operation hours. Acquiring this licence is vital in order to adhere to local rules and guarantee convenient accessibility for clients to locate the cloud kitchen. Noncompliance with the requirement to get a signage licence may lead to the imposition of penalties or the imposition of operational limitations on the cloud kitchen.

The Certificate of Environmental Clearance is an essential need for cloud kitchens operating in India. The issuance of this certificate guarantees that the cloud kitchen has successfully passed an evaluation of its environmental effect and is now functioning in accordance with established environmental rules. Acquiring this credential is imperative in order to showcase the cloud kitchen's dedication to sustainability and mitigate its environmental footprint. The absence of a Certificate of Environmental Clearance might result in legal ramifications and adversely impact the reputation of the cloud kitchen.

## Conclusion

Cloud kitchens are commercial kitchens that prepare food for delivery and takeaway but do not offer dining services. It allows a restaurant brand to increase its reach by launching a virtual restaurant or a virtual brand with a small expenditure. It also assists an entrepreneur in saving money on rent, utilities, and maintenance.

The cloud kitchen industry accounts for one-third of the restaurant industry. It is divided into three sections: virtual kitchens, ghost kitchens, and communal kitchens. The increased popularity of cloud kitchens, which offer larger profit margins and superior flexibility in operating ghost restaurants from any place, is majorly driving the India cloud kitchen industry.

Cloud kitchen operates on a delivery-only basis. They receive orders through their own website or through delivery companies such as Zomato, Swiggy, Uber Eats, and others. It is a highly successful low-investment, high-return investing strategy.

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