

Problems and Challenges of Cloud Kitchen-A Study with Reference to Mangalore City

Mr. Mohammad Musthaf

Assistant Professor

Department of Commerce

Besant Evening College

Mangaluru -575003

Karnataka

Research Scholar Yenepoya

(Deemed to be University)

Dr. Shareena P

Associate Professor

Department of Commerce and

Management

Yenepoya Institute of Arts, Science,

Commerce and Management

Yenepoya (Deemed to be

University)

Mangaluru-575013 Karnataka

Dr. Lakshminarayana Bhat A

Principal

Besant Evening College

Mangaluru -575003

Karnataka

Abstract

A cloud kitchen is a kitchen that focuses exclusively for online food delivery services. These kitchens do not offer dine-in facilities. The orders are received through online and the food is then sent to the customer through online food aggregators or directly in the form of takeaway. In the present study, the researchers tried to analyze the problems and challenges of cloud kitchen with reference to Mangalore City Corporation. The data for the study were gathered from 21 respondents. The data so collected are analysed with the help of statistical tools and techniques. Chi-square χ^2 goodness of fit test is used for testing the hypotheses. Majority of the respondents perceived that fluctuation of price of vegetables and other inputs is a challenge in determining the price. Employee's ethics and their culinary skills are the important factors for the improvement of business.

Keywords: cloud kitchen, payouts, online food aggregators

1.0 Introduction

A cloud kitchen- also some time referred to as a "ghost kitchen" or "virtual kitchen"- is a commercial kitchen space that prepares food items for delivery and takeaway. Unlike traditional restaurants, cloud kitchens prepare and deliver food products with minimum overhead. Cloud kitchens save time, money and hassles of the customers. Contrasting with dine-in restaurants and other restaurant formats, cloud kitchens ensure customer safety, given that the employees (kitchen, delivery staff, etc.) involve in the process which follows contactless delivery, proactive sanitization and other recommended safety norms. Cloud kitchens are uniquely tech-enabled. They take advantage of the new ubiquitous food delivery apps on Smartphone, such as Swiggy, Zomato and by doing so, they use large amounts of data to decide what types of food to produce for specific neighborhoods and when the demand is likely to be larger. Cloud kitchens are more flexible and

efficient in terms of orders. When there are orders then only the cloud kitchens function, if there are no orders then the cloud kitchens do not have to function. Sometimes orders may be overwhelming and the cloud kitchens may have to work overtime. The benefits of a Cloud Kitchen or a Ghost Kitchen are lower investment costs which mean no need for heavy expenses on furnishings, dinnerware, signage, or location and brand exposure, marketing expenses, menu changes etc., when compared to regular restaurants.

1.1 Literature Review

Upadhye N, Sathe S, (2020), indicated that Swiggy started as an online food delivery platform in 2014 and expanded into a cloud kitchen in 2019, with 35 restaurants as partners and targeting 300 more. For cloud kitchen marketing is more important as it becomes single source of getting orders. Chefs have important role in the cloud kitchens.

Nikhil Chhabra¹, Arpit Rana (2021), in their study revealed that cloud kitchens provide maximum productivity and meet consumer demands for cleanliness, food quality and quick delivery without compromising the physical management issues that traditional kitchens have

Beniwal T, Mathur VK, (2021), concludes that cloud kitchen without any doubt can turn out to be a more profitable venture. If an entrepreneur goes the cloud kitchen way over a regular dine-in with the same level of efforts, with its fair share of advantages such as low cost of entry, low overhead cost and low operating cost, even though there are certain limitations like late delivery, dependence on internet etc. Cloud kitchen is the ultimate need of time over traditional restaurants.

Dr. Arun Sherkar (2021), explores that Cloud kitchens serve food with good quality, taste, and that too at a reasonable price. Cloud kitchens have lower operational costs, lesser number of staff required, no restriction of space, no dining area to maintain and hence can offer products of the same quality but at a lower price than that of restaurants.

Kulshreshtha K, Sharma G (2021), found that several factors like rating by customers, loyalty cards/points, packaging etc., significantly influence the customer's perception.

Beniwal T, Mathur VK, (2022), in their research indicate that a cloud kitchen's advantage over a traditional restaurant is that it has a lower cost of entry and operating costs, such as rental cost, licensing costs, and equipment costs, as there is no need to prime establish cloud kitchen in locations or on-front employees.

Khan TA, Khan SA (2023), reveals that most respondents know about cloud kitchens, and primarily most of them heard from social media, but mere knowledge of the Cloud Kitchen Model (CKM) does not influence their ordered food preference. Most consumers consider social media the first point of knowing about the cloud kitchen. Existing restaurant owners perceived immediate additional capital requirements, other than their current capital investment running their existing restaurants now, as a barrier towards entering the

cloud kitchen business.

1.2 Objectives of the Study

The main objective of the study is to present a bird's eye view of the cloud kitchens in the study area of Mangalore City Corporation, Karnataka, India. However, the specific objectives of the study are-

1. To identify the limitations of cloud kitchens.
2. To analyses the various challenges faced by cloud kitchens.

1.3 Hypotheses

In order to achieve the objectives, this study has set the following hypotheses for testing/verification.

1. Health consciousness of the customers is influencing the business of cloud kitchens.
2. Profitability of cloud kitchens are affected due to payouts in the form of commission and other charges.
3. Covid-19 has accelerated the growth of cloud kitchens.

1.4 Research Methodology

The present study is based on primary and secondary sources of data. The primary data are gathered through a sample survey with the help of structured interview schedules. A sample of 21 cloud kitchen administrators is selected at random in the study area of Mangalore City Corporation, Karnataka, India for interview. Interview schedules are designed on a five-point Likert-scale. The data are tabulated and then analysed with the help of statistical tools and techniques. Chi-square (χ^2) goodness of fit test is used for testing the hypothesis. Secondary data have been gathered by referring to journals, periodicals and online sources.

1.5 Analysis and Discussion:

1.5.1 Health consciousness of the customers and cloud kitchens:

Customers have become more health conscious in their food choices. It has become increasingly important for the cloud kitchens to understand how health consciousness influences on food choices that affect the business decisions. Accordingly, the researchers tried to explore the impact of health consciousness of customers on the business of cloud kitchens. The results of the perceived impact of health consciousness on the business of cloud kitchens have been presented in Table-1

Table-1: Impact of health consciousness on cloud kitchens

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total number of Respondents
Health consciousness of the customers are influencing the business of cloud kitchen	07	07	06	01	00	21

χ^2 Goodness of Fit		
χ^2	df	P
12.3	02	0.002

It is clear from Table-1 that 7 respondents strongly agree with the statement that health consciousness of the customers influence on the business of the cloud kitchens, 7 respondents agree, 6 respondents are neutral and just 1 respondent disagree with the statement. The statement that health consciousness of the customers is influencing the business of the cloud kitchens is statistically highly significant with the P value (i.e., 0.002) which is less than 0.01. The hypothesis is thus verified, proved, and accepted.

1.5.2 Impact of payouts in the form of commission and other charges on the Profitability of cloud kitchens:

For this attribute researchers intended to explore the perception of the respondents on the impact of payouts on the profitability, the results are summarised in Table 2

Table 2: Impact of payouts on the profitability

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total number of Respondents
Profitability is affected due to payouts in the form of commission and other charges	16	05	00	00	00	21

χ^2 Goodness of Fit		
χ^2	df	P
42	02	.001

It is apparent from the Table 02 that a high of 16 respondents strongly agree and 5 respondents agree with the statement that profitability is affected by payouts in the form of commission and other charges. The statement is statistically highly significant with the P value .001 which is less than 0.01. Thus, hypothesis is verified and proved hence accepted.

1.5.3 Impact of Covid-19 on the growth of cloud kitchens

As the preparation of food by the cloud kitchens is for online delivery and takeaway, it can be presumed that the norms like social distancing may impact on the growth of cloud kitchens. The data pertaining to the growth of cloud Kitchens during post Covid-19 pandemic are presented in Table-3

Table-3: Year of Commencement of Cloud Kitchens

Year of Commencement of Cloud Kitchen							
Year	2013	2016	2017	2018	2019	2020	2021
Number of Cloud Kitchens	01	02	03	0	06	08	1

The study found that the business of cloud kitchens was booming immediately after the Covid-19 pandemic as 6 cloud kitchens commenced their business in the year 2019 and 8 more came up in 2020 according to the data gathered from the respondents. Due to Covid-19 pandemic online orders and home delivery services have increased significantly in the post lockdown period. The perceptions of the respondents on this attribute of the impact of Covid-19 on the growth of cloud kitchens are presented in Table-4.

Table-4: Impact of Covid-19 and growth of cloud kitchens

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total number of Respondents
Covid-19 has accelerated the growth of cloud kitchens	10	04	02	05	00	21

χ^2 Goodness of Fit		
χ^2	df	P
11.1	02	0.004

As shown in Table-4, it is found that 10 respondents strongly agree with the statement that Covid-19 has accelerated the growth of cloud kitchens, 4 respondents agree, 2 respondents are neutral and 5 respondents disagree with the statement. The χ^2 Goodness of Fit shows that that the statement is statistically highly significant with the P value 0.004 which is less than 0.01. Therefore, the hypothesis that Covid-19 has accelerated the growth of cloud kitchens is proved and accepted.

1.5.4 Other findings of the study are as follows:

- The study found that a high of 95.34 per cent respondents strongly agree with the statement that employee ethics and his culinary skills are important factors for the improvement of the business and 4.76% of respondents agree with the statement.
- It was revealed from the study that out of the 21 respondents 11 respondents strongly agree and 10 respondents agree on the statement that online food aggregators provide a dedicated marketing platform for cloud kitchens.
- The study also found that 95.34% respondents strongly agree and 4.76% of respondents agree with the statement that catchy brand name is essential for cloud kitchen.

- The researchers found that among the 21 responses received 01 respondent is neutral, 09 respondents disagree and 11 respondents strongly disagree on the statement that ambience of the cloud kitchen is an important factor.
- It was found that 18 respondents strongly agree and 3 respondents agree with the statement that lack of direct feedback from the customers is a problem of cloud kitchens.
- It is clear from the research that 76.19% of respondents strongly agree and 23.81% of respondents agree on the statement Dependency on internet and other technical devices might cause complications.
- It is also found that 16 respondents strongly agree and 5 respondents agree on the statement that fluctuation of price of vegetables and other inputs are a challenge in price fixation.
- It was found that 11 respondents strongly agree and 10 respondents agree with the statement that online food aggregators provide a dedicated marketing platform for cloud kitchens.
- The study makes it clear that 95.34% respondents strongly agree and 4.76% of respondents agree with the statement that extensive reliance on food aggregators is a merit to the cloud kitchen.

Conclusion

The Cloud Kitchens as a business model has numerous advantages. But it is also observed that they encounter several challenges like they operate in leased or rental spaces, work on delivery-only basis and have no front-of-the-house operations. The study revealed that extensive reliance on food aggregators is a merit to the cloud kitchen and ambience of the cloud kitchen is not an important factor in the business of cloud kitchens. It is clear from the study that online food aggregators provide a dedicated marketing platform for cloud kitchens. The Covid-19 pandemic has severely impacted the global restaurant industry. The cloud kitchen business model is an excellent solution to the post-lockdown situation as the customers can order from anywhere and receive orders at their doorstep.

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