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The impact of cloud restaurant on customer satisfaction: An analytical survey of restaurant owners' perspectives in Karbala province

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Abstract
With the noticeable increase in the number of cloud kitchens, which are business models that do not offer on-site dining services but rely on preparing meals in central kitchens and delivering them directly to customers online, there is a need to understand how to achieve customer satisfaction and delight. The achievement of these kitchens is contingent on their ability to provide high-quality service, convenience, and perceived value, thereby achieving customer delight. The research adopted a descriptive-analytical approach, using a questionnaire to collect data from a representative sample of 65 restaurant owners in the holy city of Karbala. The findings indicate that cloud kitchens are an emerging trend and a recent phenomenon accepted worldwide. Compared to traditional restaurants and fast-food outlets, their emergence is attributed to the COVID-19 pandemic, which forced offline restaurants to adapt. The study proved a meaningful correlation between cloud restaurants and their various dimensions in achieving customer delight. The analysis showed that cloud kitchens adopt advanced technologies to provide services, most notably receiving customer orders through online applications or mobile phones, with a relative importance of 73%. The smart menu was the least important dimension, with a relative importance of 68%, despite being the link between cloud kitchens and the customer, as it enables the customer to view the food items on offer and the cooking methods directly through this technology.

Keywords: Cloud restaurants, on line food delivery, customer delight

Introduction
Cloud restaurants, or virtual restaurants, operate primarily online and use delivery platforms to serve food to customers without the need for a physical dining location. These restaurants have seen rapid growth in recent years, especially following the COVID-19 pandemic, which pushed many traditional restaurants to adopt this model.

First - Methodological Framework of the Study
1. **Study Problem:** The research issue revolves around responding to the following question: How can cloud restaurants be utilized to achieve customer delight amidst the increasing number of such restaurants?
2. **Study Importance:** This research seeks to highlight the strengths and weaknesses of the cloud restaurants experience from the perspective of restaurant owners and customers in Karbala. Through this analysis, the study intends to provide practical recommendations to improve service quality, thereby enhancing customer satisfaction and loyalty, and ultimately improving the financial performance of these restaurants.
3. **Study Objectives**

- To define cloud restaurants and understand their impact on the food and beverage industry.
- To identify the types of cloud restaurants and understand their influence on achieving customer delight.
- To analyze the factors that influence customer delight and loyalty towards cloud restaurants.
- To provide recommendations for improving service quality in cloud kitchens.

4. Study Boundaries

- **Methodological Boundaries:** The study employed a descriptive analytical approach along with an applied approach in analyzing the questionnaire.
- **Spatial Boundaries:** The research was conducted in Iraq, specifically in the province of Karbala.
- **Temporal Boundaries:** The questionnaire was distributed through personal interviews from May 7, 2024, to May 10, 2024.
- **Human Boundaries:** A random sample of cloud kitchen owners in Karbala.

Theoretical Study Framework: The theoretical framework of this research consists of the independent variable (cloud kitchens), which includes: smart menu, order reception, order preparation (cooking), and order delivery. This variable is related to the dependent variable (customer delight), which comprises: service quality, convenience, perceived value, and trust, as illustrated in Figure (1) below:

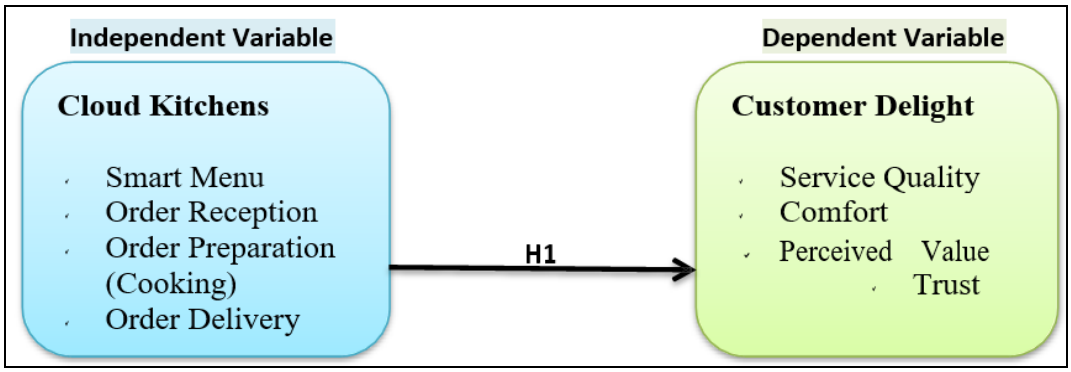

Fig 1: Model of conceptual research the researcher developed the conceptual model based on the following sources: (Ahmed Hadi, 2024), (Nedumaran & Madhu, 2023) [1]

Study Hypotheses

Main Hypothesis: There exists a statistically noteworthy impact of cloud restaurants on customer delight.

First sub-hypothesis: There exists a statistically noteworthy impact between smart menu and customer delight.

Second sub-hypothesis: There exists a statistically significant impact between order reception and customer delight.

Third sub-hypothesis: There exists a statistically significant impact between order preparation and customer delight.

Fourth sub-hypothesis: There exists a statistically significant impact between order delivery and customer delight.

Previous Studies

A study by Nicole (2023) [3] demonstrated that Cloud kitchens, which are non- traditional food businesses without dine-in services, offer higher profitability potential for owners compared to traditional establishments due to lower overhead costs, making them a viable business model. Additionally, they can improve customer satisfaction by offering a wider variety of food options. In the Philippines, this model is gaining popularity in the hospitality sector.

This study focuses on Lina's Kitchen, a recently established local cloud kitchen facing challenges in meeting its daily profit targets. Various methodologies, including root cause analysis and process documentation, were utilized to identify areas for operational improvement. Proposed enhancements include implementing sensor surveys, weekly ingredient procurement, and early menu deployment, adopting cost- effective delivery methods, and enhancing workforce recruitment.

The implementation of these recommendations has resulted in positive outcomes, indicating progress towards achieving the set objectives. As a player in the food industry, prioritizing customers is crucial, and these improvement initiatives align with the company's commitment to delivering quality service.

Study (Nedumaran, 2023) [1] Cloud kitchens, also known as virtual kitchens, shared kitchens, ghost kitchens, or satellite kitchens, are commercial spaces dedicated solely to preparing food for customer orders or deliveries. Unlike traditional restaurants, cloud kitchens do not accommodate dine-in customers; instead, they focus exclusively on producing food for delivery or takeaway. This business model enables restaurant owners to easily expand their operations or introduce new digital brands. Online food ordering, facilitated through websites or applications, allows customers to order food for delivery or pickup. Amidst the rise of food delivery platforms, the cloud kitchen concept has emerged as a growing business model, capitalizing on the increasing demand for food delivery services. These kitchens typically accept orders through online food aggregators such as Swiggy and Zomato, among others. The future of the cloud kitchen, different cloud kitchen concepts, and the best cloud kitchen brand in India are the core topics of this conceptual paper.

A study by Shahatah (2022) [4] highlighted the dynamic growth of the restaurant sector within the tourism industry, attributing much of this progress to advancements in modern technology aimed at meeting customer demands. Many restaurants have embraced modern technological innovations, such as the widespread adoption of Smart Menu (SM) technology, to enhance their operational efficiency.

The primary objective of this research was to investigate the correlation between the implementation of Smart Menu technology and customers' inclination to visit restaurants, utilizing the Technology Acceptance Model (TAM), which considers factors like perceived ease of use and perceived

usefulness. Additionally, the study explored the mediating role of perceived customer satisfaction in linking Smart Menu technology usage to customers' intention to visit restaurants, underscoring the augmented significance of customer delight in shaping the relationship between satisfaction and visitation intention.

Data were collected through a questionnaire administered to customers (463 participants) at various tourist restaurants (23 establishments in Cairo and Sharm El-Sheikh). Statistical analysis software was employed to analyze the gathered data and evaluate the research hypotheses. The findings obtained through Smart PLS V.3.2.8 revealed a robust positive association, statistically significant, between the adoption of Smart Menu technology and customers' intention to visit restaurants. Moreover, the study identified customer delight as a catalyst in bolstering the link between satisfaction and visitation intention.

Based on these findings, the study emphasizes the importance of embracing contemporary technological advancements capable of delivering unique customer experiences. Furthermore, it underscores the necessity of exploring factors that contribute to customer delight and continually evolving them in alignment with technological progress and evolving customer preferences. This recommendation is rooted in the understanding that customers consistently seek value and enhanced experiences in their interactions with businesses.

Secondly: Theoretical framework

Cloud Restaurants: Concept of Cloud Restaurants: Cloud restaurants are an emerging trend and a modern phenomenon accepted worldwide. Compared to traditional restaurants and fast-food outlets, the compound annual growth rate (CAGR) is noteworthy for cloud restaurants. Multi-cuisine restaurants and restaurant chains have started implementing the concept of cloud restaurants to participate in the competition. Ready-to-eat outlets that do not have dining facilities in the building are transforming into cloud restaurants. A cloud restaurant operates as a food production team with space for food preparation and delivery at customers' doorsteps or ready-to- eat meals ordered by customers. One of the biggest opportunities for infrastructure and operational improvements lies in sustainability with the emergence of ease of purchase and internet-based models. (H.M.Moyeenudin, 2020) [5].

Meaning of cloud restaurant: It is a form of food service business model where meals are prepared in a commercial kitchen and then delivered directly to customers. This model is also known as a virtual restaurant, ghost kitchen, or dark kitchen. Other names for this concept include cloud kitchen, dark kitchen, and virtual restaurant.

The term "cloud" denotes the idea that the restaurant operates from an off-site location, typically centralized, focusing solely on preparing meals for delivery, with no physical storefront for consumers to visit. The rise of online food delivery platforms like Uber Eats, Grub hub, and Door Dash has played a significant role in driving the widespread acceptance of cloud kitchens, leading to their growing popularity. Over recent years, there has been a noticeable surge in the demand for food delivery services. And cloud restaurants provide not only more flexibility but also more cost-effectiveness compared to traditional restaurant models.

Table 1: Definition of Cloud Restaurants

Definitions	Author Names and Year
A central commercial facility for food production without dine-in amenities.	Tanveer Ahmed Khan and others, 2023 [5]
Places that exclusively provide food for delivery through a website or app based on pre-orders, characterized by the absence of a physical location.	Dr. G. Nedumaran and Madhu Ritha, 2023 [1]
A fully equipped commercial kitchen designed to operate multiple brands under one roof, bringing with it category innovations and the latest menu options.	Araceli Hospitality Management, 2020
Food companies that conduct most of their operations online, where no dine-in options are provided for customers. Their work focuses on food production, emphasizing ready-to-eat meal orders and food delivery services.	Meena, Purushottam 2021
Food delivery companies emerging from technological advancements in the culinary industry.	Mehnaz, Shaik and Others, 2021 [8]

***Source*:** Prepared by the researcher.

History of Cloud Kitchens

Phase One (Order Reception): Cloud kitchens are not a new concept, with the first appearance dating back to 1870 through the Italian chef Raffaele Esposito at his restaurant "Pizzeria di Pietro." Esposito was considered the first pizza maker by the residents of Naples, Italy. He received an order to prepare pizza for Queen Margherita of Savoy, who was visiting Naples with King Umberto I. This inspired him to brand his creation as "Pizza Margherita," which remains popular to this day. (Pizza Margherita 2020 https://ar.wikipedia.org/wiki/)

Phase Two (Food Delivery): The period following the 2008 financial crisis marked a pivotal moment in the transformation of the food truck phenomenon into home delivery and subsequently cloud kitchens. In the aftermath of the recession, numerous high-end restaurants shuttered their doors, prompting the emergence of an alternative in the form of food trucks. Entrepreneurs of that era seized upon this opportunity, capitalizing on the affordability and mobility of these trucks to serve multiple locations, cater to customer proximity, and operate with lower rental costs. These mobile eateries popularized the concept of on-demand food delivery, fulfilling orders placed via phone calls or messages through cost-effective contract labor (gig economy). Over the past decade, this model has enabled many chefs to experiment with their culinary creations and refine their menus before venturing into more formal restaurant ventures. Despite their widespread popularity, these mobile kitchens were primarily concentrated in major urban centers and corporate districts.

Phase three (Cloud restaurant): The modern concept of the cloud kitchen emerged with the advent of the COVID-19 pandemic, which began spreading at the end of 2019 and turned into a global pandemic in 2020, forcing offline restaurants to adapt. (Maurya, Subramaniam, and Dixit, 2021) [9]. Cloud kitchens offered a way to operate a restaurant without dine-in service or direct customer

interaction. No host, waiter, or cashier is present, as they exclusively offer off-site service, primarily through third-party delivery platforms and aggregators, and occasionally through pickup locations. (ORACLE, Essential Guide to Cloud Kitchens 2020) [10].

***Source*:** Prepared by the researcher.

Fig 1: Stages of cloud kitchen development

Characteristics of cloud restaurants

- **Cost Efficiency:** Expenses such as rent, licensing, and equipment are minimized.
- since there is no necessity for prime or offsite locations.
- **Adaptability:** Cloud kitchens can swiftly adjust their offerings to suit the evolving preferences of their clientele, promptly updating menus and offering a diverse array of cuisines and dishes. This adaptability enables cloud kitchens to cater to local tastes and preferences and experiment with novel culinary concepts without the limitations of traditional dining establishments.
- **Competitive Pricing:** Customer data can be readily extracted from apps and websites.
- **Reduced Customer** Acquisition Cost: There is no requirement for elaborate decor or extensive staff.
- **Enhanced Profitability:** Cloud kitchens boast lower management and labor costs compared to traditional restaurants, resulting in augmented profit margins.
- **Scalability and Expansion:** Data indicates that the average startup cost for a restaurant in the USA entails a capital investment of approximately $275,000. In contrast, the capital investment required for a cloud kitchen restaurant is $40,000 (bdtask.com, 2022). Consequently, cloud kitchens offer scalability opportunities as they can effortlessly broaden their reach by establishing new facilities in different locales or collaborating with delivery companies to reach a wider customer base. Consequently, they can expand their enterprises swiftly and efficiently without necessitating significant financial investments (Mrs. K. Kaavya and Others, 2023).

Reasons for the spread of cloud kitchens

- Intense competition.
- Changing customer preferences.
- Lower operating costs.
- Improved food quality.
- Increased disposable income.
- Changes in customer lifestyles.

Challenges of Cloud Kitchens

Their sole existence online and reliance on delivery apps for food distribution.

Difficulty in maintaining food quality once it reaches delivery workers.

Continuous evolution in competition presents a threat, unlike full-service providers. Absence of brand recognition. (Tanveer OP, Cit, 2023).

Customer Delight

Customer satisfaction or dissatisfaction represents the final stage in consumer behavior, where the aim is to satisfy the customer. However, in their quest for satisfaction, marketers and manufacturers have pushed the boundaries further, striving not just to satisfy but also to delight customers (achieving customer delight). Through customer delight, we transcend mere satisfaction, significantly enhancing the product through innovation, improvement, and value addition, thereby offering customers a special feeling that surpasses their expectations. Delight captivates the customer and delivers additional benefits beyond their imagination. We can define delight through the following expressions: (a) Fulfilling needs the customer isn't conscious of. (b) Delivering quality service or unexpected benefits by the marketer. (c) Offering personalized standard service of the product or service. (d) Implementing problem- solving initiatives by company employees, such as the instance where a customer entering a room rented at Le-Meridian hotel was pleasantly surprised to find a personalized message on the computer screen welcoming them.

Table 2: Definition of customer delight

Definitions	Author Names and Year
Customer delight refers to the pleasure or joy experienced by a customer when interacting with a brand, product, or service.	World Wide technology, Inc 2015
It is a blend of high levels of utility (joy and happiness) and excitement	Torres & Kline 2006
It serves as a pleasant surprise that contributes to customer satisfaction, confirming their response to a specific experience.	Kim and Mattila, 2013
Delighting the customer involves surpassing their expectations, thereby generating a positive emotional response	https://en.wikipedia.org/wiki/Customer delight
It represents the utmost level of satisfaction, and surprise is not always necessary; it can result from joy.	Berman, 2005
Its function lies in unexpected consumption, excitement, and positive impact.	Loureiro,2010

***Source*:** Prepared by the researcher.

Purpose of customer delight

When implementing service, there are three objectives

- **Fostering Customer Loyalty:** According to Sewell, acquiring new customer's costs 4 to 9 times more in time and money than selling to existing customers. Therefore, it is prudent for businesses to retain as many customers as possible.
- **Cultivating More Profitable Customers:** Contented regular customers tend to spend more with less effort. When all other factors are in place, customers place less emphasis on price (provided their perception of price remains reasonable).
- **Leveraging Happy Customers as Effective Brand Advocates:** Encouraging customers to speak positively about your product, brand, or store, known as word-of-mouth, is crucial. In today's informed customer landscape, 92% of customers regard word-of- mouth as the most trustworthy source of information.

Reichheld and Markey argue that "customer delight" is the only type of growth that can be sustained in the long term. Their research suggests that a 5% increase in customer retention could lead to a profit increase ranging from 25% to 100%.

(Source: https://en.wikipedia.org/wiki/Customer_delight)

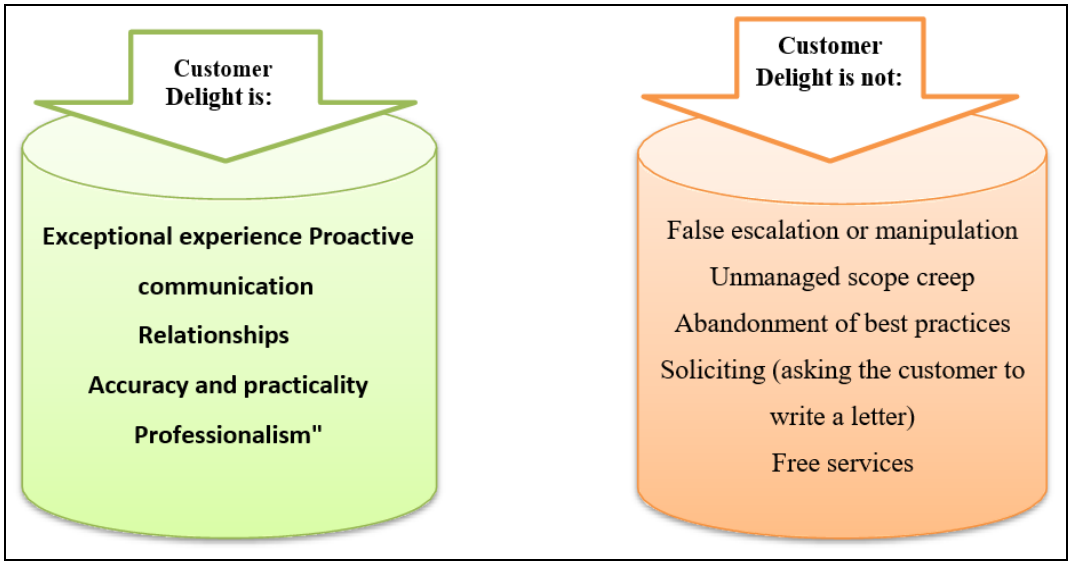

Fig 2: Illustrates how to maintain customer delight

Cloud restaurant operations

Cloud restaurant businesses come in various forms, including virtual brands, shared spaces, and dedicated cloud restaurants (Oracle 2020) [10]. These categories are determined by factors such as space utilization, real estate, equipment usage, and branding.

Virtual branded cloud restaurants allow owners to expand their restaurant concept and create a brand from scratch. Shared space cloud restaurants operate in rented commercial spaces with shared equipment used by multiple food brands. Conversely, dedicated cloud restaurants, also known as dark kitchens or ghost kitchens, are exclusively occupied by a single food brand without any other brands sharing the workspace. Each of these forms has its own advantages and disadvantages.

Virtual branded cloud restaurants typically have lower initial costs because they can utilize existing spaces owned by the proprietor. However, significant promotional efforts are required to establish brand recognition, and it may take time to identify a successful concept. Shared space cloud restaurants have minimal or no setup costs, reducing risks for business owners in case of failure. Dedicated cloud restaurants offer benefits such as rebranding opportunities, control over workspace occupants, and the option to have customer waiting areas. However, they involve higher startup costs, posing risks, especially for new businesses.

Cloud restaurants offer opportunities for entrepreneurs to start food ventures from scratch, eliminating the need to build physical establishments and reducing startup costs (Unilever n.d.). In general, these businesses focus primarily on food production and provide takeout and delivery services, with no dining options for customers. Most cloud restaurants utilize localized delivery systems, often using two-wheeled vehicles to deliver food to nearby neighborhoods (Sinha and Pandit 2021).

Common steps in planning and operating a cloud restaurant, as outlined in the literature (Oracle 2020; Kulshrestha and Sharma 2022) [10], include menu design, online order management, food preparation, delivery or pickup, and sales calculation. Cloud restaurants can reduce costs compared to traditional restaurants, with approximately

25 percent of expenses saved on items like rent and labor. This cost efficiency contributes to higher profit margins, as owners have greater control over orders and supplies.

Despite their inherent benefits in menu flexibility and branding, cloud restaurants often struggle with brand recognition and visibility (John 2021; Oracle 2020; Susilowati *et al.* 2020) [10]. Nevertheless, they are economically viable, offering businesses the opportunity to achieve higher profit margins

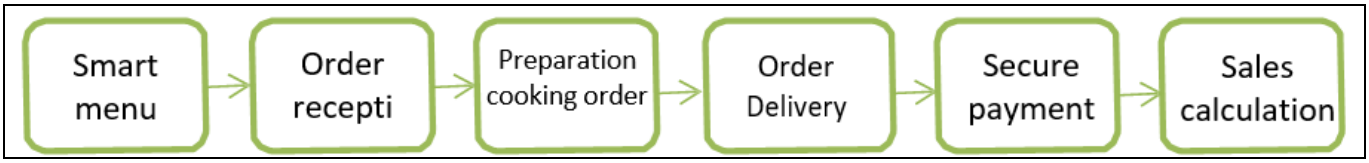

Fig 2: illustrates the operations of cloud restaurants

Cloud Restaurant Technology

Technology plays a pivotal role in cloud restaurants, where the majority of orders are placed online via websites, mobile apps, or delivery aggregators. A comprehensive technological infrastructure is essential for a cloud restaurant to effectively manage online orders, process payments, and oversee restaurant operations.

- **Point of Sale (POS):** A fundamental component of a cloud restaurant is a Point of Sale (POS) system that can accept orders from various channels, including delivery aggregators and online ordering platforms. An open POS system that seamlessly integrates with third-party solutions enhances efficiency, as orders from different channels are automatically synced with the POS terminal. This not only saves time and minimizes the risk of errors but also reduces labor costs.
- **Reporting and Analytics:** Access to robust reporting tools is essential for running a successful cloud restaurant or virtual brand - it provides valuable insights into what is actually happening in your business so you can make quick
- Decisions that will affect your bottom line. Utilizing appropriate reporting tools, from staffing optimization to inventory management for waste reduction, and from menu design for profitability to identifying top-selling items, is essential for controlling business expenses and enhancing profitability.
- **Delivery Apps:** Food delivery services have played the most significant role in the rise of cloud restaurants. With services like Uber Eats, Door Dash, and Deliveroo, food is available with just a few clicks. These services will charge you a commission ranging from 15% to 35%. You'll need to balance the money spent on commission fees against the order volumes generated by these services. So, how can you connect with delivery apps? Technology that uses open integration with other solutions will help you quickly adapt to changing business needs and new trends, such as delivery. Having an open integration POS platform will allow you too quickly and easily connect with delivery apps, streamline your operations to ensure quick service, and maintain food quality. While partnering with online delivery aggregators is an important consideration, it is also beneficial to think about implementing your own restaurant website or mobile app to accept orders as an additional sales channel. While collaborating with online delivery aggregators is significant, it's also advantageous to consider incorporating your restaurant's website or mobile app to accept orders, thereby adding another sales channel.
- **Inventory Management:** Efficiently managing inventory is essential for all restaurants, including cloud kitchens. A sophisticated inventory management system allows you to monitor daily inventory usage and notifies you when it's time to reorder stock. This helps minimize waste, manage food costs, and improve menu profitability.
- **Restaurant Management:** In the dynamic environment of cloud restaurants, where orders need to be prepared quickly to meet delivery timelines, an integrated Kitchen Display System (KDS) is invaluable. The KDS optimizes order preparation time by instantly updating orders as they are received, ensuring timely and efficient fulfillment.
- **(KDS):** This stands for Kitchen Display Screen, which displays customer orders on kitchen screens, tablets, smart TVs, or phones).

Restaurant staff can promptly access order details and the order reception time, enabling them to prepare orders accordingly. This streamlines restaurant management, boosts efficiency, and facilitates the identification of any delays to further enhance preparation time. Employing a comprehensive technology platform with seamless integration among POS, online ordering platforms, KDS, and inventory management guarantees operational efficiency and seamless performance for your cloud restaurant business. (ORACLE, op. cit, 2020) [10].

Marketing: Marketing plays a pivotal role for cloud restaurants as it is crucial for building awareness and driving orders. Since you are not investing in setting up a physical restaurant with expenses like furnishings, decor, and reception staff, allocating funds to marketing becomes feasible. Online marketing is particularly effective for cloud restaurants. The initial step involves registering your business on restaurant listing and review platforms such as Zomato and TripAdvisor, and encouraging positive customer reviews. It is essential not only to garner reviews but also to continuously monitor and respond to them appropriately. Timely feedback can greatly satisfy customers and foster trust in your brand, while also providing an opportunity to address any negative feedback promptly and improve the customer experience. Social media advertising is also highly effective, especially for promoting exclusive deals and discounts to your followers. These platforms offer targeted advertising based on demographics and location to ensure reaching the right audience, with the flexibility to set daily ad budget limits. Graphic design tools like Canva simplify the creation of engaging social media content, offering basic functionalities for free. Additionally, distributing flyers in your local area can help spread the word, although costs for design and printing should be considered. Once customers start purchasing your dishes, it's essential to encourage repeat business. Promotions, loyalty rewards, discounts on future orders, or special deals on specific days (e.g., holidays, birthdays) can incentivize customer loyalty. Retaining existing customers is more cost-effective than acquiring new ones. Implementing software to manage a loyalty program enables you to create a customer database, track purchase history, and engage customers with relevant promotions and

rewards, ultimately fostering repeat business (ORACLE, op. cit, 2020) [10].

Advantages of cloud kitchens for consumers

- **Convenience:** One of the primary advantages of cloud restaurants is the convenience they offer. Customers can order meals online from their homes or workplaces and have them delivered directly to their doorsteps. This eliminates the need to physically visit the restaurant, saving time and effort, which is especially beneficial for busy individuals who may not have the time to cook or dine out.
- **Variety:** Cloud restaurants can offer a wide range of cuisines and foods, catering to diverse preferences and tastes. Customers have the opportunity to choose from various options and try new culinary concepts, something that may be limited in traditional dining establishments.
- **Quality:** Focusing solely on food preparation and delivery allows cloud restaurants to concentrate more on product quality. Food is prepared fresh without the disruptions of operating a physical restaurant and is delivered hot and fresh to the customer's doorstep.
- **Cost:** With lower overhead costs compared to traditional restaurants, cloud restaurants can offer more affordable options to customers. The high-quality food remains the same, but it is available at a lower price point.
- **Accessibility:** Cloud restaurants can be established in areas not typically served by traditional restaurants, providing customers in these regions with a broader range of food choices.
- **Customer Information:** Customers have greater access to information about their orders and more control when placing them online. They can communicate directly with the restaurant, track their orders in real-time, and provide feedback on their experience, enhancing overall satisfaction.

Customer Perceptions of Cloud Kitchens

Customers' perceptions of cloud Restaurant are often heavily influenced by their firsthand experiences. The convenience of ordering food online and having it delivered directly to their doorstep is a significant attraction, saving time and effort. Cloud Restaurants provides an easy and efficient way to enjoy restaurant-quality meals without leaving home. While opinions may vary regarding the taste, freshness, and presentation of the food, overall quality remains a key factor for customers. Other elements that shape customer views include delivery speed, packaging, and cost. Some customers value the personalized and customizable options cloud kitchens offer, while others may favor the traditional experience of dining at physical restaurants. In summary, customer impressions of cloud kitchens are multifaceted, influenced by a variety of factors and individual preferences.

Key factors influencing customer perception of cloud restaurants

- **Technology Use:** Customers often appreciate cloud kitchens that leverage technology to improve the ordering and delivery process. Features like mobile apps for easy ordering, real-time delivery tracking, and digital payment options are highly valued.
- **Health-Conscious Options:** With a growing focus on health, cloud kitchens offering nutritious and healthy meals are likely to be viewed more favorably. Options such as gluten-free or vegan dishes can also attract a broader customer base.
- **Branding and Marketing:** Customer perceptions of cloud kitchens can be significantly influenced by their branding and marketing efforts. Establishments with a strong and consistent brand image are generally seen as more reputable and trustworthy, while those with unclear or inconsistent branding may cause concern.
- **Social Media Presence:** An active and engaging social media presence can greatly influence customer perceptions of cloud kitchens. Those with vibrant and interactive social media profiles are often perceived as more accessible and responsive compared to those with a minimal or nonexistent online presence.

Practical Aspect of the Research

Requirement 1: Testing the Measurement Tool

First: Testing the Structural Reliability and Validity of the Measurement Tool

Ensuring the structural reliability and validity of a measurement tool is essential to confirm that it is suitable for its intended use. This involves verifying that the tool is reliable, dependable, and accurately assesses the theoretical constructs it is designed to measure.

One of the most important and widely used methods for assessing the reliability of a questionnaire is the Cronbach's Alpha measure. This measure is well-known and commonly utilized among researchers across various fields of scientific research (Sekaran, 2003: 311). Sharma (2016: 273) provides guidance on interpreting Cronbach's Alpha values to evaluate the reliability achieved in a specific application environment, as illustrated in Table (3).

Table 3: Reliability Levels According to Cronbach's Alpha Value

S.	Cronbach's Alpha Value	Reliability Level
1.	$\alpha \geq 0.9$	Excellent
2.	$\alpha \geq 0.8 > 0.9$	Good
3.	$\alpha \geq 0.7 > 0.8$	Acceptable
4.	$\alpha \geq 0.6 > 0.7$	Questionable
5.	$\alpha \geq 0.5 > 0.6$	Poor
6.	$\alpha > 0.5$	Unacceptable

***Source*:** Sharma, B. (2016).

"Examining Reliability in Developmental Research Using Cronbach's Alpha among Medical, Dental, and Paramedical Professionals." Asian Pacific Journal of Health Sciences, 3(4), p. 273.

Validity refers to the extent to which a measure accurately assesses what it is intended to measure. In simpler terms, validity examines whether the measure effectively evaluates the phenomenon under investigation rather than something else (Sekaran, 2003: 206). Various types of validity exist, one of which is content validity, utilized by the researcher. Content validity is a subjective assessment that relies on the researcher's precise identification of variables relevant to the research topic. The accuracy of this identification relies heavily on the depth of knowledge the researcher possesses regarding the subject matter (Cooper & Schindler, 2014: 257) [11, 16]. Table (4) displays the reliability coefficients for the research variables.

Table 4: Coefficients of Stability for Research Variables

S.	Cloud Restaurants		Customer Delight	
	Dimensions	**Stability Coefficients**	**Dimensions**	**Stability Coefficients**
1.	Smart menu	0.784	Order quality	0.730
2.	Order receiving	0.761	Convenience	0.771
3.	Order preparation	0.765	Perceived value	0.792
4.	Order delivery	0.791	Trust	0.790
Overall stability		0.854	Overall stability	0.837

***Source*:** Outputs of SPSS Software (V.27).

Table (4) indicates that all stability coefficient values for the research variables, including cloud restaurants and customer delight, along with their dimensions, fall within statistically acceptable limits. This suggests that the scale employed to measure the research items demonstrates high stability, providing the researcher with confidence in utilizing the obtained results to make informed decisions

Secondly, testing the normal distribution of the data

Following stability testing of the researcher's data collection tool, and considering that hypothesis testing in the current study relies on parametric statistics, it is imperative that the data adhere to a normal distribution, a fundamental assumption for parametric methods (Field, 2009:132) [14]. Deviations from normality can jeopardize the reliability of the test results derived from such methods.

While statisticians argue that when the sample size is large relative to the population, concerns regarding normal distribution diminish (Field, 2009:329) [14], the researcher, prioritizing the accuracy of the research findings, subjected the questionnaire survey data to a crucial test for normality distribution, the Kolmogorov-Smirnov test. If the test's significance (sig.) equals or exceeds 0.05, it indicates that the data conforms to a normal distribution at the specified level. Consequently, parametric statistical analysis tools can be employed with confidence. In cases where the data deviates from normality, the researcher will resort to non-parametric analysis tools. Table (5) presents the outcomes of the normal distribution test for the research variables and their dimensions.

Table 5: Results of the Kolmogorov-Smirnov test for research variables

	Smart menu	**Order receiving**	**Order preparation**	**Order delivery**	**Cloud Restaurants**
Test Statistic	.107	.111	.115	.113	.083
Asymp. Sig. (2-tailed)	.069a	.064b	.079d	.073c	.200c,d
	Order quality	Convenience	Perceived value	Trust	Customer Delight
Test Statistic	.115	.103	.101	.114	.081
Asymp. Sig. (2-tailed)	.078a	.068a	.057b	.072c	.200c,d
a. Data follows a Normal distribution.					
b. Derived from the dataset.					
c. Utilizing Lilliefors Significance Correction.					
d. Represents a conservative estimate of the actual significance					

***Source*:** Outputs of SPSS Software (V.27).

Table (5) indicates that the data for the variables (cloud restaurants and customer satisfaction) at both the overall and sub-dimensions levels follow The data exhibits a normal distribution as the significance of the normality test exceeds 0.05.Therefore, parametric statistics can be used to test the hypotheses, answer the questions, and achieve the set objectives.

Requirement 2: Describing and Diagnosing Research Variables

This section aims to present, analyze, and interpret the findings of the research sample's responses to the questionnaire items. This is achieved by examining the weighted arithmetic means, relative importance, standard deviations, and coefficients of variation for each item of the research variables. The research assesses the level of responses using the arithmetic means to determine the category to which they belong. Given that the research questionnaire employs a five-point Likert scale (ranging from "strongly agree" to "strongly disagree"), there are five categories associated with the arithmetic means. The categorization process involves determining the range (5-1 = 4) and dividing it by the number of categories (5) (4 ÷ 5 = 0.80). Subsequently, this value (0.80) is either added to the minimum value of the scale (1) or subtracted from the maximum value of the scale (5). The resulting categories are outlined in Table (6):

Table 6: Weighted arithmetic means and response levels

	Weighted Mean	**Response Level**
1.	From 1 to 1.80	Very Low
2.	From 1.81 to 2.60	Low
3.	From 2.61 to 3.40	Moderate
4.	From 3.41 to 4.20	High
5.	From 4.21 to 5	Very High

***Source*:** Dewberry, Chris, (2004) [12]. Statistical Methods for Organizational Research: Theory and practice. First published, Published in the Taylor & Francie, p15.

This aspect will be addressed according to the following sections

Firstly, the section entails the presentation, analysis, and interpretation of the research sample's responses regarding cloud restaurants. Table (7) displays the calculated values of weighted arithmetic means, relative importance, standard deviations, and coefficients of variation at both the partial and overall levels.

Table 7: Descriptive Statistics for the cloud restaurants variable

S	Dimensions	Weighted Arithmetic Mean	Standard Deviation	Coefficient of Variation %	Relative Importance %
1.	Smart Menu	3.43	1.34	39.06	68
2.	Order Receiving	3.64	1.19	32.75	73
3.	Order Preparation	3.44	1.39	40.50	69
4.	Order Delivery	3.57	1.05	29.54	72
Cloud Restaurants		3.52	1.25	35.65	71

***Source*:** Outputs of SPSS Software (V.27).

Table (7) indicates that the variable of cloud restaurants obtained a weighted mean of 3.52, categorizing it as "high." This is supported by a standard deviation of 1.25 and a variability coefficient of 35.65%.This indicates the availability of this variable in the research organization. Furthermore, the relative importance reached (71%). Below is a detailed explanation of the variable dimensions:

1. **Smart Menu:** At the overall level, the dimension attained a weighted mean of 3.43, placing it in the "moderate" category. The relative importance was 68%, with a standard deviation of 1.34. With a coefficient of variability around (39.06%). It is clear that the smart menu acts as a link between cloud restaurants and customers, allowing them to directly view the offered food items and cooking methods through this technology.
2. **Order Receiving:** At the overall level, the dimension obtained a weighted mean of 3.64, categorizing it as "high." The relative importance reached 73%, with a standard deviation of 1.19 and a variability coefficient of (32.75%). These results clearly indicate that restaurants provide a service for receiving customer orders, either through online applications or mobile phones, and provide electronic servers to directly accept orders.
3. **Order Preparation:** At the overall level, the dimension attained a weighted mean of 3.44, suggesting a "high" category. The relative importance reached 69%, with a standard deviation of 1.39 and a variability coefficient of approximately 40.50%. From these results, it can be concluded that restaurants work on preparing food and beverages and display the stages of their preparation to customers.
4. **Order Delivery:** At the overall level, order delivery achieved a weighted mean of (3.57), indicating a "high" category. The relative importance reached (72%), having a standard deviation of 1.05, along with a variability coefficient of (29.54%). It is evident that delivering customer orders through delivery companies or the cloud restaurant's own delivery service.

Secondly: Displaying, analyzing, and elucidating the feedback from the research participants concerning customer satisfaction

Table (8) illustrates the weighted mean values, relative significance, standard deviations, and computed variability coefficients, whether analyzed partially or comprehensively.

Table 8: Descriptive statistics for the variable customer delight

S.	Dimensions	Weighted Arithmetic Mean	Standard Deviation	Coefficient of Variation %	Relative Importance %
1.	Order quality	3.43	1.21	35.49	68
2.	Comfort	3.42	1.22	35.81	68
3.	Perceived value	3.41	1.31	38.40	68
4.	Trust	3.63	1.23	33.98	73
Customer delight		3.50	1.27	36.11	70

***Source*:** Outputs of SPSS Software (V.27).

From Table (8), it's apparent that the variable "Customer Delight" obtained a weighted mean of 3.50, categorizing it as "High." It's accompanied by a standard deviation of 1.27 and a variance of 36.11%, signifying the prominence of this variable within the organization under investigation. This prominence is further underlined by its relative importance, which reached 70%. Below is a comprehensive breakdown of the dimensions associated with this variable:

1. **Quality of Service:** At the aggregate level, the dimension garnered a weighted mean of 3.43, signifying its classification within the "High" category. The relative importance attained was 68%, accompanied by a standard deviation of 1.21 and a variance of 35.49%.This suggests that restaurants have the ability to prioritize different applications, customers, or information and presentation offers to ensure a certain level of performance that achieves customer delight.
2. **Convenience:** At the overall level, the dimension garnered a weighted mean of 3.42, placing it in the "High" category. The relative importance reached 68%, alongside a standard deviation of 1.22 and a variance of 35.81%. The findings distinctly reveal the efforts made by restaurants to save customers time and effort, evident through measures such as minimizing waiting times, streamlining information input, and simplifying website or app navigation.
3. **Perceived Value:** At the overall level, the dimension attained a weighted mean of 3.41, placing it in the "High" category. The relative importance reached 68%, with a standard deviation of 1.31 and a variance of 38.40%. This dimension is evidently present in the restaurants being studied
4. **Trust:** The trust dimension obtained a weighted mean of 3.63 at the overall level, placing it in the "High" category. The relative importance reached 73%, with a standard deviation of 1.23 and a variance of 33.98%.

Trust stands as a pivotal factor in the success of cloud restaurants or any business endeavor. Establishing trust with customers is the pathway to their satisfaction and eventual delight, fostering customer loyalty and transforming potential customers into active patrons.

The third objective involves testing the hypotheses regarding the relationships between research variables.
This entails examining the impact relationships both at the sub-hypothesis level derived from the main hypothesis and at the overall level through the utilization of simple linear regression coefficients.

Issue 2: Testing the second primary hypothesis regarding the impact relationship between cloud restaurants and customer delight (Determining if cloud restaurants significantly influence customer delight)
Has been divided into four sub-hypotheses as outlined below:

1. The financial dimension has a significant impact on customer delight, along with its respective dimensions.
2. Order reception has a significant impact on customer delight, alongside its dimensions.
3. Order preparation significantly influences customer delight, including its dimensions.
4. Order delivery has a significant impact on customer delight, along with its dimensions.

Table 9: Illustrates the estimation of simple linear regression relationship between cloud restaurants and customer delight

Dependent Variable / Independent Variable	β	Customer Delight				
		R^2	T	F Tabular 1%	F	F Tabular 1%
Cloud Restaurants	0.63	0.40	9.28	2.70	86.21	7.31

***Source*:** Outputs of SPSS Software (V.27).

The findings from Table (9) demonstrate that the regression coefficient of the cloud restaurants variable on customer delight is 0.63. This suggests that a one-unit change in cloud restaurants results in a 63% increase in customer delight. Moreover, this effect is statistically significant, as the calculated t-value (9.28) surpasses the critical value (2.70) at a 1% significance level. Furthermore, it is noted that cloud restaurants account for 40% of the variability in customer delight, while the remaining 60% is ascribed to other variables not included in the current research model.
Additionally, the estimated model is deemed overall significant, as the calculated F-value exceeds the critical value (7.31) at a 1% significance level.
Consequently, based on the above observations, the second primary hypothesis, which posits that there is a statistically significant effect of cloud restaurants on customer delight, is accepted.

Sub-Hypothesis 1: There is a significant effect of a smart menu on customer delight

Table 10: Displays the estimation of the simple linear regression relationship between the smart menu and customer delight

Dependent Variable / Independent Variable	β	Customer Delight				
		R^2	T	F Tabular 1%	F	F Tabular 1%
Smart Menu	0.53	0.29	7.26	2.70	52.82	7.31

***Source*:** Outputs of SPSS Software (V.27).

From Table (10), the following is evident

a) The regression coefficient stands at 0.53, signifying that a one-unit change in the dimension results in a 53% increase in customer delight. This effect is statistically significant, as the calculated t-value (7.26) exceeds the critical t-value of 2.70 at a significance level of 1%.
b) The coefficient of determination (R-squared) is approximately 0.29, indicating that the dimension explains around 29% of the variations in customer delight. The remaining 71% is attributed to other factors not incorporated into the current model.
c) The calculated F-value of 52.82 surpasses the critical F-value of 7.31 at a significance level of 1%, demonstrating that the estimated model is statistically significant overall.

Based on the analysis presented in Table (10), the researcher concludes the acceptance of the alternative hypothesis, which asserts "There is a statistically significant effect of the smart menu dimension on customer delight."

Sub-Hypothesis 2: There is a statistically significant effect of order reception on customer delight

Table 11: Displays the estimation of the simple linear regression relationship between order reception and customer delight.

Dependent Variable / Independent Variable	β	Customer Delight				
		R^2	T	F Tabular 1%	F	F Tabular 1%
Over Receiving	0.54	0.28	7.22	2.70	52.13	7.31

***Source*:** Outputs of SPSS Software (V.27).

The analysis of the results presented in Table (11) leads to the following conclusions

a) The regression coefficient stands at 0.54, indicating that a one-unit change in the dimension results in a 54% increase in the customer delight variable. This effect is statistically significant, as the calculated t-value (7.22) exceeds the tabulated value at the 1% significance level (2.70).
b) The coefficient of determination (R^2) is approximately 0.28, suggesting that the dimension explains 28% of the variations in customer delight, while the remaining 72% is attributed to other factors not included in the current model.

c) The calculated F-value of 52.13 surpasses the tabulated value of 7.31 at the 1% significance level, indicating the overall significance of the estimated model.

Based on the analysis of the results from Table (11), the researcher concludes acceptance of the alternative hypothesis, which posits that "There is a statistically significant effect of order reception on customer delight."

Sub-hypothesis three: There is a significant effect of order preparation on customer delight.

Table 12: Estimation of the simple linear regression relationship between order preparation and customer delight.

Dependent Variable / Independent Variable	β	Customer Delight				
		R^2	T	F Tabular 1%	F	F Tabular 1%
Order Preparation	0.61	0.36	8.64	2.70	74.73	7.31

***Source*:** Outputs of SPSS Software (V.27).

The following conclusions can be drawn from Table (12)

a) The regression coefficient was 0.61, indicating that a one-unit change in the dimension leads to a 61% increase in the customer delight variable. This effect is significant, as the calculated t-value of 8.64 exceeds the tabulated value of 2.70 at the 1% significance level.
b) The determination coefficient (R^2) was approximately 0.36, suggesting that the dimension accounts for 36% of the variation in customer delight. The remaining 64% is due to other factors not included in the current model.
c) The calculated F-value of 74.73 is greater than the tabulated value of 7.31 at the 1% significance level, indicating that the overall model is significant.

Based on the analysis of the results from Table 12, the researcher concludes that the alternative hypothesis is accepted, indicating a statistically significant effect of order preparation on customer delight.

Sub-hypothesis four: There is a significant effect of order delivery on customer delight

Table: Estimation of the simple linear regression relationship between order delivery and customer delight

Dependent Variable / Independent Variable	Customer Delight					
	β	R2	T	F Tabular 1%	F	F Tabular 1%
Order Delivery	0.64	0.41	9.51	2.70	90.61	7.31

***Source*:** Outputs of SPSS Software (V.27).

The following conclusions can be drawn from Table (13)

a) The regression coefficient was 0.64, indicating that a one-unit change in the dimension results in a 64% increase in the customer delight variable. This effect is significant, as the calculated t-value of 9.51 exceeds the tabulated value of 2.70 at the 1% significance level.
b) The determination coefficient (R^2) was approximately 0.41, suggesting that the dimension accounts for 41% of the variation in customer delight. The remaining 59% is due to other factors not included in the current model.
c) The calculated F-value of 90.61 is higher than the tabulated value of 7.31 at the 1% significance level, indicating that the overall model is significant.

Based on the analysis of the results from Table 13, the researcher concludes that the alternative hypothesis is accepted, indicating a statistically significant effect of order delivery on customer delight.

General Results

1. This study is expected to highlight the strengths and weaknesses of the cloud restaurant experience from the perspective of restaurant owners in Karbala. Practical recommendations will be provided to improve service quality and increase customer satisfaction, potentially leading to increased loyalty and improved financial performance for the restaurants.
2. Cloud kitchens represent a modern trend in the restaurant industry, differing from traditional restaurants by not offering dine-in services to customers. Meals are prepared in commercial kitchens without on-site dining facilities. These meals are delivered directly to customers through online orders or prepared for takeout.
3. This type of restaurant is considered the smartest way to manage restaurant businesses in the face of intense competition, high rents, and rising costs. It is characterized by:

- **Cost efficiency:** Operating a central kitchen without the additional expenses of retail locations or dining halls.
- **Flexibility:** The ability to easily modify menus and experiment with new concepts without incurring significant costs.
- **Wide reach:** Thanks to partnerships with delivery companies, these restaurants can reach a broader customer base without geographical limitations.

Field Results

The analysis results showed that cloud kitchens adopt advanced technologies to provide comprehensive services, including smart menus, order receipt, order preparation, and order delivery, which enhance the customer experience.

Cloud kitchens offer customer order receipt services via online applications or mobile phones, utilizing electronic servers to assist in directly accepting orders, with a relative importance of 73%.

Cloud kitchens rely on delivery companies or their own delivery services to deliver customer orders, with a relative importance of 72%.

Cloud kitchens prepare food and beverages and display the preparation stages to customers, with a relative importance of 69%.

The smart menu is considered the link between cloud kitchens and customers, enabling them to view the food

items and cooking methods directly through this technology, with a relative importance of 68%.

The analysis results showed that customer delight variables are considered important elements in enhancing customer satisfaction and loyalty by providing high quality, comfort, perceived value, and building strong trust with customers.

The analysis results indicated that the trust dimension is the key to the success of the cloud kitchen or any business project, with a relative importance of 73%. Building customer trust significantly contributes to their satisfaction and delight, leading to increased loyalty and turning potential customers into current ones.

The analysis results showed that the relative importance of the service quality dimension reached 68%. Therefore, cloud kitchens have the ability to provide high- quality services that ensure a certain level of performance that achieves customer delight, thereby enhancing their positive experience.

As for the comfort dimension, the analysis results showed that its relative importance reached 68%, indicating that these kitchens provide comfort to customers by reducing wait times and simplifying order processes, saving customers time and effort and increasing their satisfaction.

Regarding the perceived value dimension, the analysis results showed that its relative importance reached 68%, indicating that cloud kitchens offer exceptional value to their customers, making them feel they are receiving good value for their money spend.

Recommendations

1. **Improve food quality and menu options**

- **Diversify the Menu:** Provide a variety of food options to meet the diverse tastes and needs of customers.
- **Use fresh ingredients:** Focus on using fresh and high-quality ingredients to enhance taste and quality.
- **Offer healthy options:** Add healthy options free from artificial ingredients to attract health-conscious customers.

2. **Speed up delivery services and improve efficiency**

- **Improve logistics:** Enhance the delivery process by investing in advanced logistics systems and training delivery staff.
- **Shorten delivery time:** Set clear goals to shorten delivery time and ensure food arrives hot and fresh.
- **Utilize technology:** Use modern applications and technologies to improve the management and tracking of delivery orders.

3. **Enhance the user experience of delivery applications**

- **Design an easy-to-use interface:** Develop applications with a simple and user-friendly interface to ensure a smooth ordering experience.
- **Provide available technical support:** Offer 24/7 technical support to assist customers in case of any technical issues.
- **Continuous updates:** Regularly update applications to add new features and improve performance.

4. **Effective communication with customers**

- **Provide multiple communication channels:** Offer various methods for customer communication, including live chat, email, and phone.
- **Collect and Respond to feedback:** Regularly collect customer feedback and respond promptly to improve service.
- **Transparency in handling complaints:** Handle complaints transparently and compensate customers when necessary to improve satisfaction.

5. **Adapt to market changes**

- **Continuous Innovation:** Adopt new and innovative strategies to keep up with changes in the cloud kitchen market.
- **Training and Development:** Provide ongoing training courses for employees to improve their skills and knowledge of the latest trends.

6. **Data Analysis and Continuous Research**

- **Use Analytics:** Analyze customer data to better understand their behaviors and preferences.
- **Regular Surveys:** Conduct regular surveys to measure customer satisfaction and identify areas that need improvement.

Conclusion

Cloud kitchens represent a new model in the food and beverage industry; however, their success largely depends on their ability to achieve customer satisfaction and delight. Through this research, the factors contributing to this goal will be explored, which help restaurant owners in Karbala will provide a better experience for their customers.

Statistical Methods

1. Cronbach's Alpha for measuring reliability
2. Validity using the square root of the reliability coefficient
3. Kolmogorov-Smirnov test to determine the normality of the data distribution
4. Weighted arithmetic mean
5. Relative importance, calculated by (weighted arithmetic mean × 20%)
6. Standard deviation
7. Coefficient of variation
8. Pearson's simple correlation coefficient
9. Simple regression coefficient
10. T-test to indicate the significance of the effect
11. ² (Coefficient of determination) to show the amount of variance explained by the independent variable in the dependent variable
12. F-test to assess the significance of the estimated model.

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