Industry 5.0 and Consumer-Centric Food Delivery: Exploring the Evolution of Cloud Kitchen Models

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ABSTRACT

Industry 5.0 is a new stage of industrialization that is focused on how to merge new digital technologies with a humanistic approach. The emergence of technology-facilitated food delivery systems and innovative business models like cloud kitchens are some of the ways this paradigm has played an important role in the food service industry. Cloud kitchens, working mainly on the digital platform, as well as online delivery services, have altered the way traditional food service is conducted with the emphasis on efficiency, personalization, and the improved consumer experience. The paper presents the history of the development of cloud kitchen models in the context of Industry 5.0, emphasizing the impact of technological advances, including artificial intelligence, Internet of Things (IoT), data analytics, and drone delivery on consumer-centric food delivery systems. The case study approach will be used in the research by investigating Curefoods Pvt. Ltd. and its collaboration with Skye air mobility that evidences the incorporation of modern delivery technologies within the cloud kitchen ecosystem. The outcomes show that Industry 5.0 technology implementation in cloud kitchens has a positive impact on operational efficiency, reduces delivery time, and increases the transparency of supply chains and consumer satisfaction because of faster and more personalized services. The research points to the increased significance of technology-driven, consumer-focused models of food delivery and indicates that cloud kitchens are likely to become a central point of the formation of the digital food service industry in the future.

Keywords: Cloud Kitchen, Consumer-Centric Food Delivery, Industry 5.0, Drone Delivery, Food Technology Innovation..

INTRODUCTION:

Digital technologies have been developed rapidly, and this development has changed almost all spheres of the global economy, the food service industry being among them. Over the last few years, the adoption of cutting-edge technologies, including artificial intelligence (AI), the Internet of Things (IoT), big data analytics, and automation, has greatly transformed the way business works and consumers experience it. With the growing interconnection among societies, businesses are now obliged to embrace new technological solutions to ensure that they are competitive and sensitive to the changing needs of consumers.

The fifth generation of industry is the next step of industrialization, where the key focus is on combining smart digital technologies to a human-friendly strategy. The Industry 5.0 is more oriented toward human-technological cooperation to make processes more efficient, customized, and satisfying to the consumers, unlike the previous revolutions in the industry that were more inclined towards mechanization, mass production, and digital automation. The paradigm allows businesses to make use of data-driven insights and intelligent technologies to design more personalized and responsive services.

Another type of transformation has been witnessed in the food service industry, due to the emergence of digital platform and online food delivery services. The consumers are increasingly seeking convenience, promptness, and customized food experiences and this is what has promoted development of new food service models. The cloud kitchen is one such growing model that is also called ghost kitchens or virtual kitchens since it does not have a conventional dine-in venue but functions via online ordering and delivery systems. Cloud kitchens are strongly dependent on digital technologies and online delivery services to process orders, automate manufacturing operations, and promote the efficiency of operations.

The rise of cloud kitchens is the indication of the increase in the role of Industry 5.0 in the food delivery system. Cloud kitchens can deliver more efficient, consumer-oriented and faster services through the use of technologies like IoT-enabled kitchen management systems, demand forecasting data analytics, and

innovative delivery technologies like drone technology. Such models are technology-based, and they help open-minded companies to optimize the supply chains, decrease operational expenses, and enhance customer satisfaction.

Here, the current research discusses the development of cloud kitchen concepts in the context of Industry 5.0, including in the context of consumer-based food delivery. The study analyzes an example of a company Curefoods Pvt. Ltd. and its partnership with Skye Air Mobility, which is a unique case of technological food delivery using drones and which involves the implementation of innovative logistics. Through the case analysis, the research will bring out the impact of the adoption of advanced technologies that are changing the cloud kitchen ecosystem and redrawing the future of food delivery services. Thus, the purpose of the given study is to consider the impact of Industry 5.0 technologies on the development of cloud kitchen schemes and the formation of consumer-oriented models of food delivery.

Industry 5.0 in the Food Industry

The food industry is a complicated and dynamic industry that deals with production, processing, distribution and service of food and beverages products. It includes those organizations that are involved in the production of finished goods, semi-finished products, and raw materials to be consumed (Luque et al., 2017). As the need to be more efficient, safe, and sustainable, the food industry has been embracing more sophisticated technological systems to enhance production and service delivery.

Historically, one of the key elements in food and beverage companies was mass production methods that were developed when commercial kitchens appeared (Okumus & Cetin, 2019; White et al., 2019). But even mass production is no longer competent to satisfy the changing demands of the contemporary consumer who is now demanding customization, convenience and quality. The result of this change saw the birth of the concept of the industrial kitchen which is characterized by the combination of large scale food production and consumer oriented service strategies (Aktaş & Özdemir, 2007). There are three main principles of the industrial kitchen model: customer satisfaction improvement, higher production model, and implementing the new technologies in the food preparation and distribution processes.

Industry 5.0 technologies have become popular in recent years, impacting the transformation of the food industry to a great extent. The Internet of Things (IoT), artificial intelligence, big data analytics, smart packaging, drone-based delivery systems, and others are among the technologies that help organizations improve the efficiency of their operations, enhance traceability, reduce waste, and deliver personalized consumer experiences (Luque et al., 2017). These technological advancements will aid in real time tracking of the supply chain and provide faster, safer, and efficient food delivery systems.

The cloud kitchen model is one of the most visible trends that appear because of the technological progress and the evolving consumer behavior. Cloud kitchens, also known as ghost kitchens, virtual kitchens or dark kitchens, do not have physical dine-in operations, but only an online food delivery platform. These kitchens depend much on the digital solution and the services of delivery networks to contact consumers and, as a result, lower operational expenses related to physical restaurant areas.

The fast-paced development of the online food delivery system, including Swiggy and Zomato, has only fueled the online food delivery model towards the use of cloud kitchen systems in India. According to industry reports, the Indian online food delivery market is predicted to grow to reach about 13 billion dollars by 2025 with the cloud kitchen segment alone likely to grow by a significant margin in the years to come. Thanks to the flexibility of the menu and the efficiency of operations, as well as the increased customer convenience, cloud kitchens can rely on the potential of digital technologies and platform-based delivery systems.

Moreover, the implementation of the Industry 5.0 technologies in cloud kitchens changed the food delivery ecosystem. Real-time data analytics, automation, and high-tech logistics solutions provide cloud kitchens with the ability to streamline food preparation to minimize delivery time and improve customer experience. The latest developments like the use of drones in the delivery systems are the next phase in the transformation of the food delivery service that can provide better and more effective distribution channels.

Emergence of Cloud Kitchens

The dynamism of the digital technologies and the shifts in the customer way of life has altered the food service industry structure greatly. Among the most remarkable innovations that appear as a result of this transformation is the model of cloud kitchen also known as ghost kitchen, dark kitchen, or virtual restaurant. Unlike the conventional restaurants that are dependent on the use of dine-in services, cloud kitchens only work within the online food delivery system which allows food businesses to connect with consumers without necessarily having to keep physical dining areas.

This is because the idea of cloud kitchen has gathered steam owing to the growing need of convenience, low prices, and speed among urban customers. As digital ordering systems and mobile applications become increasingly spread, the customer is able to browse menus, make an order, and watch the delivery in real time. This digital consumption has been promoting a trend of using a light mode of operations in food businesses whereby it is possible to reduce investing in costly retail spaces and front of house services and merely concentrate on the efficiency of food production and delivery.

Cloud kitchens have provided food entrepreneurs and restaurant brands with a number of strategic benefits. To begin with, they cut down operation expenses in terms of rent, interior design to a great extent.

Technology-driven Food Delivery Innovations

The food delivery ecosystem has been changed greatly with technological progress, thus allowing restaurants and cloud kitchen operators to deliver their services with increased efficiency, accuracy, and customer satisfaction. The adoption of digital platforms, artificial intelligence (AI), data analytics, and automation technologies at an

accelerated pace alters the conventional food service models and has turned them into technologically-driven delivery networks that center on speed, personalization, and optimization of operations.

Mobile apps and online food delivery platforms have also become the core of this change as they allow the improved ability to browse the menu, order and receive deliveries, as well as feedback in real time. These systems store massive amounts of consumer data, which can be processed to determine the buying behaviors, preferences, and consumption trends. These can enable food businesses to create consumer-focused menus, focused promotions, and personalized recommendations which in turn can help in increasing customer satisfaction and engagement.

The other important innovation is smart kitchen technologies and digital kitchen management systems. The systems are useful in facilitating the process of orders, managing inventory and food preparation in cloud kitchens. Automation tools and AI-powered models of future demand help predict demand, minimize food waste, and improve the distribution of resources. This means that cloud kitchens are able to ensure high operational efficiency as well as the quality of the products.

Moreover, the last-mile delivery solutions are being redefined by the emerging technologies like autonomous delivery robots and drone based logistics. These new technologies will help to decrease the amount of time spent because of delivery, decrease human interference, and enhance the reliability of delivery in a congested city. As an example, the concept of drone delivery has been discussed in case of a more efficient and environmentally friendly alternative to a traditional delivery service in a more densely populated city.

In the larger context of Industry 5.0, food delivery technologies are focused on technology integration, but these components are prioritized, i.e., human creativity, intelligent machines, and consumer-centered design. Instead of replacing human involvement in its entirety, Industry 5.0 is concerned with involving advanced technologies and human skills in producing more responsive and personalized services. As a result, the integration of digital technologies in cloud kitchens does not only improve the performance of operations, but also leads to an ecosystem of food delivery that is more adaptive and efficient and consumer-oriented.

Objectives of the Study

To explore the role of Industry 5.0 technologies in transforming cloud kitchen models within the food delivery ecosystem.

To examine how the evolution of cloud kitchen models influences consumer experiences, preferences, and perceptions toward food delivery services.

Literature Review

Industry 5.0 and Technological Transformation

The past couple of centuries have been full of technological advances that have been changing the systems of production in industries and the way of doing business. The initial industrial revolution was characterized by the emergence of steam power that substituted the human and animal labor (Berg and Hudson, 1992). The second industrial revolution saw the advent of electrification and mass production which is mainly relating to the assembly line model of production at Ford (Mokyr, 1998). The third industrial revolution also presented automation due to the development of electronics and information technology (Greenwood, 1999; Ghobakhloo, 2018).

Over the past few years, the notion of Industry 4.0 has risen, which is defined by the implementation of cyber-physical systems, the Internet of Things (IoT), big data analytics, cloud computing, and advanced robotics in the industrial processes (Kagermann et al., 2013; Ruesseff et al., 2015). Carrying on this digital transformation, Industry 5.0 focuses on a more human-focused and sustainable model with more advanced technologies cooperating with human intelligence to provide more productivity, customization, and value creation (Culot et al., 2020). Industry 5.0 incorporates the use of technologies, including artificial intelligence, smart sensors, IoT networks, data analytics, to ensure intelligent decision-making and higher operational efficiency in industries.

The service industries such as the food industry have not been left behind in these technological advances since more responsive and consumer-based production and distribution systems have become a possibility.

Cloud Kitchens and the Digital Transformation of Food Delivery

The development of online food delivery platforms and the rapid evolution of digital platforms has dramatically changed the food service industry. The customary restaurant designs are gradually being supplemented by the new service models, which are based on the digital infrastructure and the online order systems. The cloud kitchen is one of these emerging models, also known as ghost kitchen or virtual kitchen, and it has its main operations based on online delivery services, which lack physical dine-in restaurants.

Cloud kitchens are thought to be a cost-effective and scalable substitute to traditional restaurants since they do not require costly storefront and a vast number of service personnel (Kumar, 2019). They use online channels, data analytics, and delivery systems to handle orders, optimizing kitchen tasks, and reach more customers. The growing trend of the social media marketing and food delivery apps has further fueled cloud kitchens growth as it allows the business to directly interact with consumers and create brand awareness (Chauhan, 2019).

The COVID-19 pandemic further boosted the use of cloud kitchen models because the restaurants were forced to comply with physical dining limitations and increased use of online delivery service providers (Maurya, Subramaniam, and Dixit, 2021). Consequently, cloud kitchens have become a fast-expanding food service industry in the world.

Consumer-Centric Food Delivery and Technological Innovation

Recent research indicates that the use of technological innovations is producing a tremendous impact on consumer experiences within the food delivery service. Food delivery websites also impact purchasing habits by means of convenience, speed of service delivery, and availability (Panse et al., 2019). Customers are moving towards electronic commerce where they are offered personalized recommendations, real time monitoring of their orders and effective delivery services.

IoT, artificial intelligence, data analytics, and other technologies help food businesses to understand consumer preferences and predict demand trends and streamline supply chains (Ben-Daya et al., 2019). Moreover, the new innovations like drone delivery systems are explored to enhance the efficiency of the delivery process, decrease the operational expenses, and improve the speed of the service (Gružauskas et al., 2018).

These technologies are integrated, corresponding to the principles of Industry 5.0 because it allows developing an ecosystem of services that are more responsive and customer-oriented. Food delivery systems using technology have enabled the delivery of customized services to businesses and enhanced efficiency and sustainability of businesses.
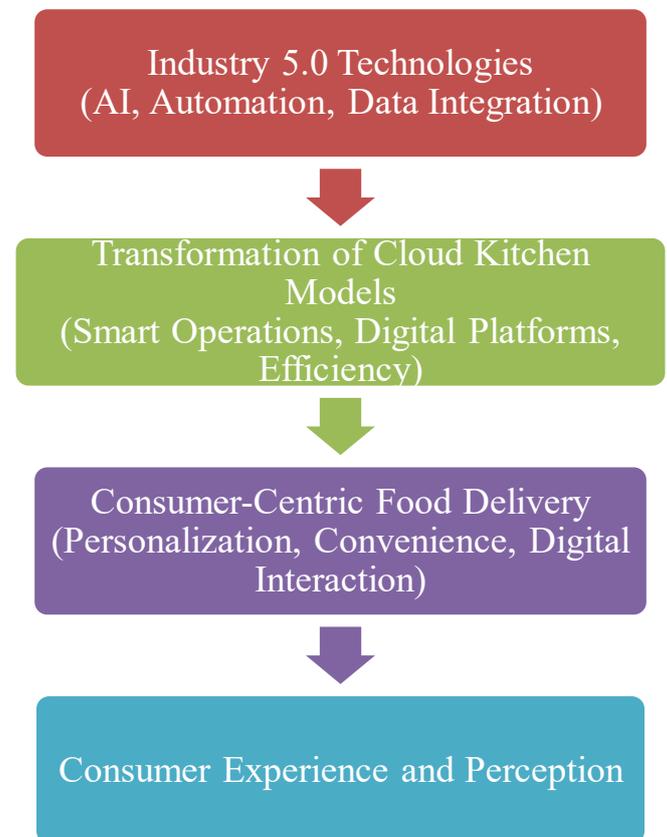
Research Gap

Despite the above research, despite the use of previous research, which has discussed Industry 4.0 technologies and development of online food delivery systems, there is limited research on the role of Industry 5.0 technologies in developing consumer-focused cloud kitchen designs. Specifically, the deprivation of case-based research that examines how innovative technologies like drone delivery and data-driven operations affect the development of cloud kitchens and provide consumers with a better experience is present. Thus, the proposed research aims to fill this gap by discussing the example of Curefoods Pvt. Ltd. and its cooperation with Skye Air Mobility, indicating how Industry 5.0 technologies contribute to the evolution of food delivery systems that are based on the cloud kitchen.

Conceptual Framework

Innovation, personalization and collaborative automation through Industry 5.0 technologies has revolutionized the digital food service economy, making it more human-centric. Applied to cloud kitchens, these technologies make it an easier experience to engage with consumers via AI-related suggestions, real-time service modification, and data-enhanced operational effectiveness. The growing needs of customers to be more convenient, more personalized, and responsive are prompting cloud kitchen platforms to embrace Industry 5.0 principles to provide consumers with more consumer-centric food experiences.

The theoretical construct of the current research paper is that the technological integration of Industry 5.0 in cloud kitchens has an effect on consumer perception and service experience, which, in turn, leads to consumer satisfaction and purchase intentions toward the services of cloud kitchens. Individualization, service efficiency, online

interaction and anticipated convenience are key factors that influence consumer reactions towards models of cloud kitchen. The framework thus looks at the interplay between the technological innovations and the design of services based on consumers and their role in the changing dynamic food delivery platforms.

Figure 1: Conceptual Framework Linking Industry 5.0 Technologies with Consumer-Centric Cloud Kitchen Evolution

Research Methodology

The current research is based on a qualitative case study design in that the phenomenon of cloud kitchens as a consumer-focused food delivery concept is explored in the context of the Industry 5.0. The case study approach is most appropriate in contexts that examine various modern phenomena in the real world setting as well as in understanding new business models in the context of the modern world (Yin, 2009). It enables the researcher to learn how complicated organization functions and technological changes in a given environment (Eisenhardt, 1989).

The paper targets the Curefoods Pvt. Ltd. and its technological alliance with the Skye Air Mobility as the main case study. The case was singled out as it is a high profile on how cloud kitchen operations are incorporating high-end technologies like the utilization of drones in delivery systems to optimize their operations and customer satisfaction. The collaboration shows the practice of Industry 5.0 principles such as technological innovation, automation, and better service provision.

The primary source of the research is secondary data, such as company reports and press releases, industry reports and news articles and published academic resources

concerning cloud kitchens, food delivery platforms, and Industry 5.0 technologies. The analysis of these sources was conducted to comprehend the operation model of Curefoods, technological abilities of Skye Air Mobility, and the effect of drone delivery on food logistics and the efficiency of consumers services.

The study will attempt to examine the contribution of technological integration to transform the food delivery system and add to the development of consumer-focused cloud kitchen paradigms in the Industry 5.0 period through the analysis of this case.

Case - Curefoods Pvt. Ltd. and Skye Air Mobility

The current paper takes the case-based, qualitative research approach to determine how Industry 5.0 technologies and consumer-centric food delivery models are changing. Curefoods Pvt. Ltd. and Skye Air Mobility were taken as the context of the research since they are the active participants in the process of integrating the latest technological solutions into the cloud kitchen ecosystem. Curefoods is one of the fast emerging cloud kitchens in India that uses the power of digital infrastructure along with data-driven operations to provide convenient food services to various cities. Skye Air Mobility, however, is an IT-focused logistics firm that deals with the delivery systems of drones. The strategic alliance of the two organizations offers a rare chance to study how food delivery works are changing with the introduction of new technologies like drone delivery, automation, and online platforms and improving consumer experience. Thus, the case provides some significant knowledge about the changing nature of Industry 5.0-based consumer-centric food delivery model.

Curefoods Pvt. Ltd.

Curefoods Pvt. Ltd. is a startup company that was established in 2020 by Ankit Nagori and it is based in Bengaluru, India. The firm was founded on the aim of offering healthy, quality, and convenient food to consumers via food service model based on digital technology.

Curefoods works in the format of cloud kitchen mainly, when it also manages quick-service restaurant (QSRs) and casual dining premises. The organization is oriented to the exploitation of the technology-driven food production systems, which comprises digital order processing, automated kitchen processes, efficient packaging, and waste management systems. With such an infrastructure made possible by technology, the company will strive to provide quality food on a regular basis, and at the same time uphold efficiency in its operations.

The company has several food brands that include EatFit, Yumlane, Aligarh House Biryani, and Masalabox that are able to meet various consumer tastes in the Indian metropolitan markets. Curefoods has over the years spread its operations base in various cities in India through opening up many cloud kitchen operations and multi-brand food manufacturing plants.

Venture capital firms have also been major investors in Curefoods. During its financing rounds, the company has raised considerable capital to diversify its food brands, as

well as to increase its technological strength in the cloud kitchen system.

Skye Air Mobility

Skye Air Mobility is a start-up, founded in 2019 by Shrikant Sarda, Chandra Prakash, and Ankit Kumar, and whose concept was to revolutionize the logistics and delivery environment with the help of drone-based delivery services.

The business aims at deploying unmanned aerial vehicle (UAV) to offer more efficient and cost efficient delivery services, especially in urban and remote areas. Skye Air has been an active participant in BVLOS (Beyond visual line of sight) drone trials, thus proving that it has the technological capabilities to operate drone-based logistics operations.

The organization has partnered with a number of top businesses such as Flipkart, Blue Dart, and Dunzo to evaluate the opportunity of drone delivery in the healthcare industry, e-commerce and food delivery. These measures will see Skye Air develop a scalable drone delivery network that can be used in various delivery applications.

Alliance between Curefoods and Skye Air Mobility

Drone Food On July 2023, Curefoods Pvt. Ltd. and Skye Air Mobility declared a strategic partnership to investigate the potential of drone-delivery of food, specifically the distribution of frozen and ready-to-ease food.

Under this project, Skye Air made trial delivery at Gurugram with its flagship drone, Skye Ship One. The drone was developed to deliver baskets of food that contained temperature-controlled foods but remained highly flight safe and efficient with regard to delivery.

The experiments involved flights of several drones during the trial phase, each with a load weight of around five kilograms in temperature-regulated containers. The drones could reach a range of approximately 20 kilometers within a time span of less than 30 minutes and this proved the potential of drone technology in improving the speed and efficiency of the food delivery.

This collaboration will be an important move to incorporate new technologies in the delivery processes of the cloud kitchen system and be part of the larger Industry 5.0 vision of service models that are technology-enabled and consumer-centric.

Outcomes of the Partnership

The partnership between Curefoods and Skye Air speaks to the increased involvement of innovative logistics technology in the food technology industry. The delivery systems based on drones could have a positive impact on the speed of delivery, cost reduction, and efficiency of the last-mile delivery.

Also, this technological integration can enhance the consumer experience on the digital food delivery platforms, especially through enhanced speedy and reliable delivery services. The project is also indicative of the growing acceptance of more sophisticated technologies in the growing cloud kitchen sector, which

can help the ecosystem to create more efficient and consumer-oriented food delivery systems.

Conclusion

Implementation of Industry 5.0 technologies in the food industry has greatly contributed to flexible operations, efficiency and responsiveness in the food production and delivery systems. Industry 5.0 has allowed advancing order delivery, quality of production, and the general productivity of operations through the implementation of real-time monitoring of data, automation, and intelligent supply chain management. Such technological advancements have led to the creation of a leaner and more efficient food system that is conducive to the industry players as well as consumers.

Cloud kitchens have come in as a revolutionary business model in the digital food delivery sector under this changing environment. Cloud kitchens can operate without the traditional dine-in infrastructure, which enables the reduction of the cost of operations, the increase in menu flexibility, and the optimization of resources with the help of digital platforms and kitchen management technologies. These strengths have made cloud kitchens to provide efficient and scalable services of providing food and still make money.

Moreover, the use of modern technologies increases customer satisfaction and experiences as they allow faster delivery, higher accuracy of orders and personal offer of services. An example of the potential to transform the future of food delivery through technological collaboration and innovation, namely, by means of drone-powered logistics is the case of Curefoods Pvt. Ltd. and Skye Air Mobility. Drones can be used to enhance the efficiency of cloud kitchen operations, improve the last-mile logistics, and decrease the delivery time. In sum,

Industry 5.0 technologies and new delivery systems integration is a valuable move toward creating a more consumer-related, technologically-driven, and efficient food delivery ecosystem.

Implications

The results of this research provide valuable information to the food service managers, cloud kitchen operators and technology providers planning to improve consumer-centric food delivery systems. Such Industry 5.0 technologies as automation, data analytics, drone-based logistics, etc can contribute to a substantial level of efficiency in operations and speed of delivery along with a positive experience of the customers. The food delivery ecosystem managers must pay attention to using technology-based kitchen management systems and innovative last-mile delivery services to keep up with the changing digital food market. The close partnership between cloud kitchens and technology-based logistics companies can also enhance the efficiency of services and open new possibilities of the food delivery market.

Limitations and Future Research

The present research is founded on a qualitative case study of the collaboration of Curefoods Pvt. Ltd. and Skye Air Mobility that could constrain the extrapolation of the research findings to other food delivery situations. In the future, it is possible to study several cloud kitchen platforms and compare various technological models of deliveries in different regions. Also, empirical research that dwells on consumer perception and adoption of drone-based food delivery service would offer more insights on the emerging dynamics of Industry 5.0-driven food delivery systems.

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REFERENCES

1. Ben-Daya, M., Hassini, E., & Bahroun, Z. (2019). Internet of things and supply chain management: A literature review. International Journal of Production Research, 57(15–16), 4719–4742. https://doi.org/10.1080/00207543.2017.1402140
2. Culot, G., Nassimbeni, G., Orzes, G., & Sartor, M. (2020). Behind the definition of Industry 4.0: Analysis and open questions. International Journal of Production Economics, 226, 107617. https://doi.org/10.1016/j.ijpe.2020.107617
3. Eisenhardt, K. M. (1989). Building theories from case study research. Academy of Management Review, 14(4), 532–550. https://doi.org/10.2307/258557
4. Eisenhardt, K. M., Graebner, M. E., & Sonenshein, S. (2016). Grand challenges and inductive methods: Rigor without rigor mortis. Academy of Management Journal, 59(4), 1113–1123. https://doi.org/10.5465/amj.2016.4004
5. Ferraris, A., Mazzoleni, A., Devalle, A., & Couturier, J. (2019). Big data analytics capabilities and knowledge management: Impact on firm performance. Management Decision, 57(8), 1923–1936. https://doi.org/10.1108/MD-07-2018-0825
6. Ghobakhloo, M. (2018). The future of manufacturing industry: A strategic roadmap toward Industry 4.0. Journal of Manufacturing Technology Management, 29(6), 910–936. https://doi.org/10.1108/JMTM-02-2018-0057
7. Gosai, K. M. (2020). A study on cloud kitchens as an emerging food and beverage industry. International Journal of Advanced Research in Science and Engineering, 9(9).
8. Gupta, M. (2019). A study on the impact of online food delivery apps on restaurant businesses with special reference to Zomato and Swiggy. International Journal of Research and Analytical Reviews, 6(1), 889–893.
9. Li, C., Mirosa, M., & Bremer, P. (2020). Review of online food delivery platforms and their impacts on sustainability. Sustainability, 12(14), 5528. https://doi.org/10.3390/su12145528
10. Lyons, H. (2005). Food industry case studies: A suitable medium for publication. British Food Journal, 107(9), 702–713. https://doi.org/10.1108/00070700510615080
11. Nagy, J., Oláh, J., Erdei, E., Máté, D., & Popp, J. (2018). The role and impact of Industry 4.0 and the Internet of Things on the business strategy of the value

chain: The case of Hungary. Sustainability, 10(10), 3491. https://doi.org/10.3390/su10103491

12.   Noor Hasnan, N. Z. N., & Yusoff, Y. M. (2018). Application areas of Industry 4.0 technologies in the food processing sector. In IEEE Student Conference on Research and Development (SCOReD) (pp. 1–6). IEEE. https://doi.org/10.1109/SCORED.2018.8711184

13.   Pal, D., Funilkul, S., Vanijja, V., & Papasratorn, B. (2022). Using online food delivery applications during the COVID-19 lockdown period: What drives university students' satisfaction and loyalty? Journal of Foodservice Business   Research,   25(5),   561–605. https://doi.org/10.1080/15378020.2021.1964419

14.   Panse, C., Sharma, D. S. R., & Dorji, N. (2019). Understanding consumer behavior towards utilization of online food delivery platforms. Journal of Theoretical and Applied Information Technology, 97.

15.   Sarangdhar, P. (2021). A study on the emerging concept of cloud kitchens in India. Sambodhi (UGC CARE Journal), 44(1), 2249–6661.

16.   Troise, C., O'Driscoll, A., Tani, M., & Prisco, A.

(2021). Online food delivery services and behavioural intention: A test of an integrated TAM and TPB framework. British Food Journal, 123(2), 664–683. https://doi.org/10.1108/BFJ-05-2020-0418

17.   Trivelli, L., Apicella, A., Chiarello, F., Rana, R., Fantoni, G., & Tarabella, A. (2019). From precision agriculture to Industry 4.0: Unveiling technological connections in the agri-food sector. British Food Journal, 121(8),   1730–1743.   https://doi.org/10.1108/BFJ-11-2018-0747

18.   Wankhede, N. D. (2021). A study on sustainability of cloud kitchens in the Mumbai region. Kalyan Bharati (UGC CARE Journal).

19.   Xu, L. D., Xu, E. L., & Li, L. (2018). Industry 4.0: State of the art and future trends. International Journal of   Production   Research,   56(8),   2941–2962. https://doi.org/10.1080/00207543.2018.1444806

20.   Yin, R. K. (2009). Case study research: Design and methods (5th ed.). Sage Publications.

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