

# **The Boom Of Technology In Trade: Practical Context, Opportunity And Challenges, Case Of Online Food Delivery System In Current Point Of View.**

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## **Abstract**

*The online food delivery (OFD) system is the practice of food ordering from a local restaurant or food cooperative through a web page or app and it has become common worldwide. We undertook a literature review on this topical. There are two main goals for this study. The first is to bring out the operating mode of the OFD and the second was to determine opportunities and challenges this system always faces. The system has three main components: the producers who are restaurants the delivery man who are intermediators and principal actors dealing with internet for delivery and the consumers. At the other hand OFD system has more advantages which offer diverse opportunities in term of saving time for buyers, increasing revenues for sellers, and the most important factor to maintain is loyalty which comes from customers' satisfaction. Technology's cost and the control of agent are two of common challenges for restaurants. In order to remain competitive, restaurants should put customers' satisfactions as their first priority thus consumers could be loyal.*

**Keywords:** *Loyalty; Online food delivery, Opportunities and challenges, Technology*

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## **I. Introduction**

In recent decades, technological boom has been one of the domains where finesse has been manifested in a short period of time. Two features are on the basis of this revolution: (1) the strong interconnectedness and interdependence of the participating systems in their technologies and markets, (2) the capacity to transform profoundly the rest of the economy and eventually society (Burke, 1997; Perez, 2010). It implicates ideological or material changes due to the introduction of devices or systems so that promotes efficiency and productivity higher than it could be the case without it.

All domains of current life have been impacted by technology. Some illustrations of its real effect are health system, education and research methodology, finance, social interactions and business management (in which online sale food products is included). Technological boom is not restricted to these aspects but it goes beyond them and can play a role of a trigger of a chain of various and unpredictable changes (Burke, 1997; Klein, 2008) in households and companies of current societies.

The e-commerce has been developed due to technological boom, and even purchasing food ready to be consumed (eaten) is actually done online. Most of electronic food business applicants rely to an OFD system (Bhandge et al., 2015) which can be either an app (like KFC, MacDonalD apps) of the service or a blog, even a large platform including more companies (restaurant and/or catering, hotels, food producer...). The same system is always used for advertisement of the company's services and products, so it reveals a multi gain character of the electronic commerce.

Electronic food delivery offers an attractive alternative to the traditional queueing system. Indeed, at the one hand with customers highly crunched for time as their hours at work increase, and at the other hand with the number of dual-income households practice growing lately (Heim & Sinha, 2001; Adithya et al., 2017), the online system for food supply has become a salutary measure. Nevertheless, the system faces diverse challenges which remain to be struggled by these services. Akkerman, (2010) stated that the food delivery is different from other products delivery; it requires continuous good quality throughout the supply, all the path until to be delivered to the order. Hence, in food supply, quality, healthiness and safety necessitate principal concern in order to earn loyalty of customers.

At this end, the OFD mechanism still has some prior to be well understood so actors can improve practicable measures, then producers and consumers will from either side well satisfied. Accordingly we tried to discuss about the practical context, opportunity and challenges of OFD in order to bring something as a contribution to well document this domain and open further researcher orientations for future.

## **II. Practical Analysis Of Online Sale In Food Products**

### ***A Brief history***

According to the literature, the OFD is not for nowadays, but it has been for a considered length of time and almost all the parts of world are concerned except some landlocked places especially in Africa Asia and South America. Worldwide, the first OFD was a pizza from Pizza Hut, a restaurant chain in USA, Texas and created in 1958 by Dan and Frank Carney in 1994 (Pizza Hut, 2014) and the first online food ordering service was initiated in 1995, the World Wide Waiter. From this moment especially the late of 2000s, many restaurant chains began to think about strategies to reach a high number of customers, thus the system was expanded worldwide and they created they own apps.

### ***Situation from 2010 to 2019***

With the smartphone increase and internet tool well set, electronic food delivery started to receive more attention (Khairunnisa et al., 2009; Goyal et al., 2011; Bhandge et al., 2015). In USA for example, online ordering accounted for about 3% of the 61 billion restaurant dealings (Bomkamp, 2016) and one-quarter of restaurants chain already adopted online delivery system (Kimes, 2011) since the traditional system seemed to not generate incomes as it was in the past. The revenue from OFD from restaurant to consumer and from platforms to consumers is estimated to be 16,980 million in 2018 (OFD, 2018).

The situation in China is such that in 2014 the volume of online food delivery service transactions exceeded 15 billion yuan (2.2 billion USD) and reached 45.78 billion yuan (6.6 billion USD) in 2015 (Lan et al., 2016). In only one year, the annual income of OFD service tripled and the major factor in this increasing is the use of smart phones as the data of China Internet Network Information Center (CNNIC) shows that the number of OFD service users reached 114 million and among which about 104 million users order online food delivery service by mobile phone in 2015 (CNNIC, 2019). And not only in food sale but even other articles are bought massively online using phone, with total online shoppers of 413 million and about 340 million use mobile phones. According to Online Food Delivery, (2018) this year the income was estimated to have an increase rate of 32,908 USD million. China has high incomes from OFD than USA and Europe because high demography is the first parameter for revenues in diverse systems.

In Europe, England, France and Germany have developed more OFD service than other countries and for non-food goods for e-commerce they instore system of no delivery at home but at point stores near the order's home with automated lockers networks system as sometimes delivers don't meet any people at order's home (Morganti et al., 2014). Revenue in the OFD segment amounts to 12,689 million USD in 2018. This value was expected to show an annual growth rate from 2018 to 2023 of 11.1%, resulting in a market volume of 21,466 USD million by 2023. The market's largest segment is Restaurant-to-Consumer Delivery with a market volume of US\$10,988 million in 2018 (OFD, 2018). In global comparison, most revenue was generated in China.

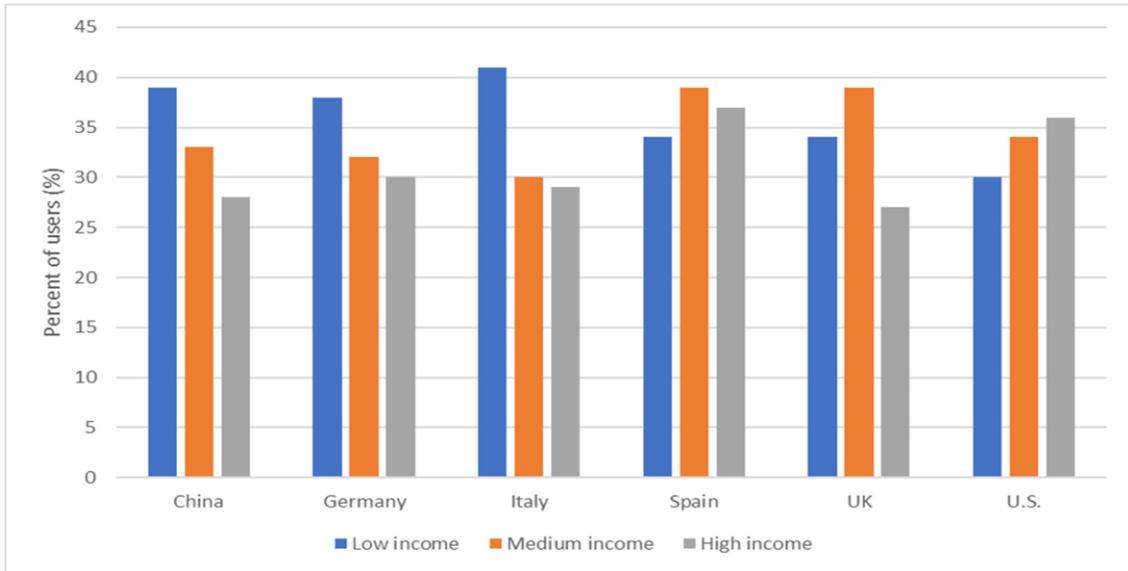
### ***Current situation***

By 2024, China was expected to remain the world's largest OFD market, generating over US\$50 billion in revenue. The United States of America is in second place, with OFD revenues reaching around US\$33 billion that year. These regions' (China and USA) strong digital infrastructure, high smartphone dispersion, busy urban lifestyles and strong restaurant culture are contributing to the OFD market's success. In addition, the COVID-19 pandemic has accelerated the adoption of OFD as a safer restaurant option.

Worldwide, the revenue in the OFD market systems is projected to reach US\$98 billion in 2025. Revenue is projected to show an annual growth rate from 2025 to 2030 of 7.64%, resulting in a projected market volume of US\$226 billion by 2030. The grocery delivery market system would show an income growth of 12.4% in 2026. This market (grocery delivery) will have a projected market capacity of US\$38.98 billion in 2025. Globally compared, most revenue will be produced in China (US\$59.14 billion in 2025). The average revenue per user (ARPU) in the grocery delivery market is expected to amount to US\$546.12 in 2025. In the OFD market, the number of users is likely to amount to 2.5 billion users by 2030. User flow in the OFD market will be at 28.2% in 2025 (<https://www.statista.com/outlook/emo/online-food-delivery/worldwide>).

In United Kingdom, Spain and the United States of America a great percentage has been shown of high-income food delivery app users than low-income users. Meanwhile in countries like Italy, China and Germany lower incomes holders are the most using the OFD systems. Nonetheless dissimilarities in the ratio of users from low and high income groups exist between states and generally food delivery applications are exceedingly accessed by all groups, regardless of income (Figure 1). Fernandez & Raine (2021) asked themselves if the quality of ordered foods through food delivery applications differs between income groups as the rate of using the OFD systems are disparate between these two groups. Overall, the most common food purchased by the OFD app is pizza, 47% of diners using delivery platforms command Western food (e.g., pizza, burgers), 35% buy East Asian food (e.g., Chinese, Thai, Japanese, and Korean), and 18% purchase other

international food such as Mexican and Indian (<https://www.statista.com/outlook/emo/online-food-delivery/worldwide>).

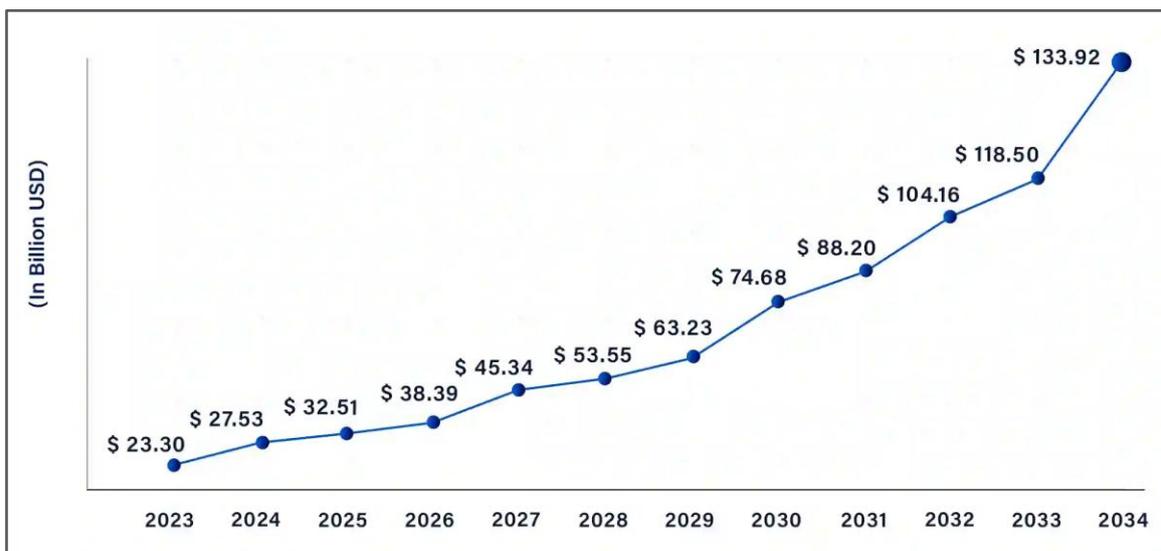


**Fig. 1: Proportions of online food delivery users from low, middle, and high income groups across six countries (Rotar, 2021).**

Although OFD service is already widely used in continents as Asia, Europe and America, in Africa it still at the beginning of its implementation (Scott et al., 2021). According to <https://www.precedenceresearch.com/online-food-delivery-services-market>, theregions' situations of OFD are:

a. The Asia-Pacific

This part of the world orders a significant share in the OFD services market (33%) due to diverse distinctive features. Its extensive and densely populated urban areas, joined with the expanding high middle-class demographic people, have made a strong request for suitable dining resolutions. Furthermore, the ubiquity of smartphones and the steady rise in internet availability and accessibility have eased easy access to OFD platforms for customers. The region's culinary landscape, characterized by a diverse array of regional cuisines, further bolsters the appeal of these services. These diverse elements, together with the rapid urbanization and evolving consumer preferences unique to the Asia-Pacific region, contribute to its significant market dominance with high rate growth over years (Figure 2).



**Fig.2: Asia-pacific online food delivery service extrapolated from 2023 to 2034 (source: <https://www.precedenceresearch.com/online-food-delivery-services-market>)**

b. North America

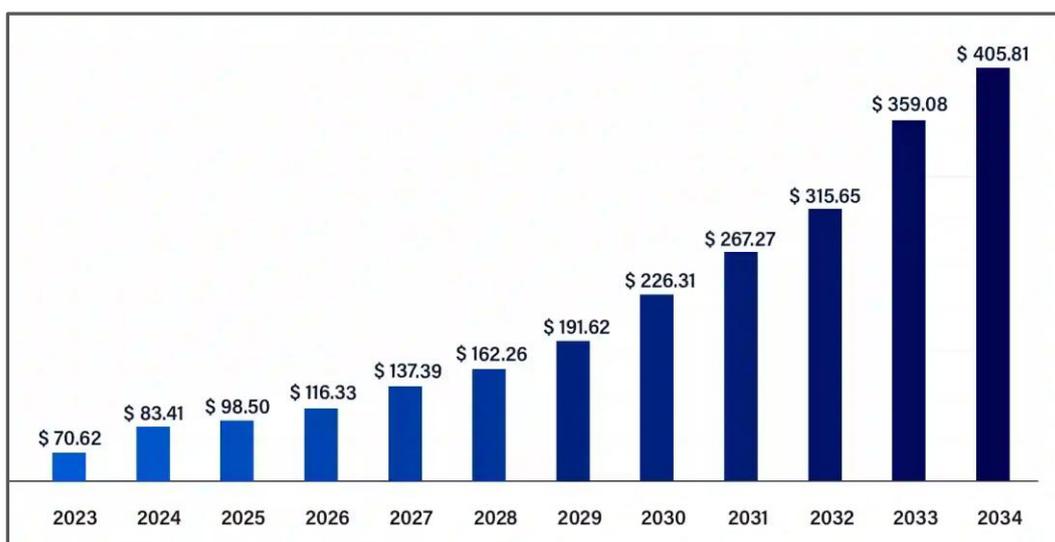
The American region (especially the North party) is estimated to observe the fastest expansion (30%). Major players like Uber Eats, DoorDash, and Grubhub have established a robust presence, proposing a wide range of cuisines. Overall, North America's favourable market conditions and consumer preferences have positioned it as a key driver of the industry's growth and innovation.

c. Europe

The European Union represents almost 27% of the worldwide OFD market. This is not a worst situation for this business as South America and Africa represents the lowest rates in OFD system (with respectively 6 % and 4%).

Also, it is important to depict the COVID-19 pandemic effect in the world. The pandemic had a profound impact on the OFD services market. Lockdown period, social distancing measures, and safety concerns led to a surge in demand as consumers turned to these services for contactless dining. While this business saw increased income during the pandemic, it also confronted challenges, including operational adjustments ensuring safety, augmented competition, and reliance on reduced-capacity restaurants.

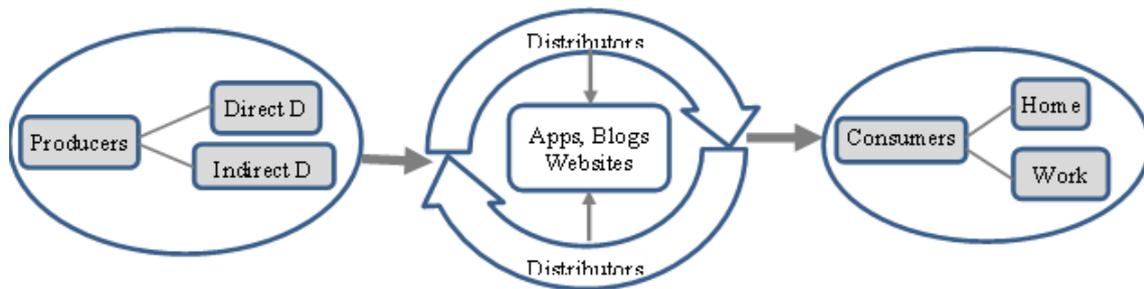
In the post-pandemic period, the shift toward OFD remains, as consumers have incorporated the convenience in their habit, making it a lasting trend in the industry. Online food delivery suppliers are now focusing on enhancing user experiences and sustainability initiatives to preserve growth. Nevertheless, the small rate of using OFD in Africa cannot impact its large increasing of income. According to the literature data collected by experts, the extrapolations from 2023 to 2034 of OFD will show such situation explained in the figure 3, and will still continuing growing over years..



**Fig. 3: Online Food Delivery services market size 2023 to 2034 (USD Billion)(source:<https://www.precedenceresearch.com/online-food-delivery-services-market>)**

**Characterization**

The online system was introduced in replacement or make up for the traditional system which always use script on papers or oral method for ordering food in restaurant, hotels, catering (Bhargave et al., 2013) etc. The working system of the online food ordering is based on internet use (Khairunnisa et al., 2009; Samsudin et al., 2011).In general sellers can offer online ordering using their own website/blog or app, using a common site web or app (which is a group of restaurants using the same site or same app called particularly a platform) to serve customers (Kimes, 2001).Otherwise they can use text on social networks (Facebook, WeChat, Twitter...). Schematically the structure is presented as appear in figure 4.



**Fig.4: General functional scheme of the OFD system (D: is delivery after direct and indirect)**

This figure demonstrates an overall working system of the OFD. The system has three main parts: at the basis we have companies or structures that produce food (producers or cookers). A recent study (Yeo et al., 2017) demonstrates that producers or restaurants use two kinds of deliveries services: (1) direct delivery, largely comprised of fast food chains such as McDonalds, KFC, Pizza Hut... as they have their own agents for direct shipment; (2) indirect delivery which is constituted by multiple restaurant intermediaries that provide delivery services for a large range of restaurants, e.g. Delivery.com, Food Panda, Eat24hours.com etc. Secondly we have the mediators who always make link between producers and consumers; they are delivery men or distributors who spend time in shipping food using apps, websites or blogs. Most of their work time is spent around the delivery system (using internet) searching consumers' location, so that mobile use is required (Goyal et al., 2011; Chavan et al., 2015) as laptop can't be transported wherever shipment will occur as the service is regular in whole the day. At the end of the scheme we have consumers who are customers. They order food being at home or at work (students, teachers, clerks, office workers and all kind of workers). The payment is done by credit card, mobile money, (using some app as WeChat, Alipay in china), even by cash at the delivery moment.

### III. Opportunities

Since it was initiated, the electronic commerce (always called e-commerce) has been rapidly improved as internet has established itself as a vital marketing tool in the market of all goods, which can transcend time and geographical constraints (Khairunnisa et al., 2009; Rong-Da Liang & Lim, 2011) and allow even food sale to be flourishing. The OFD system has been associated with bigger revenue, enhanced capacity management, developed productivity of vendors, improved transactional marketing and customer relationship management (Kimes, 2001), some of qualities that the traditional system can't facilitate. The traditional food order method is not efficient enough for restaurant to deals with crowded situation as it can be classified into 2 categories which are paper method and verbal method. In the first case, the waiter will write customers' order and pass the paper to the kitchen for further process. This kind of ordering arises many mistakes in crowded restaurants such as loss of the paper, error in writing the food name and so on. The second case is even worse than the first as verbal method need workers to remember all the customers' order in their memory and they will transmit physically the message to the kitchen. It displays feebleness as causing the workers impotent to memorize all the orders in a crowded restaurant, and this will greatly affect the restaurants' profitability. So that the OFD remain the main solution as customers can consult the websites of several sellers in a little period of time, every day and whenever they want to compare prices then make orders, without having to leave their homes or offices, and track them till they will be shipped. The OFD offers also a feedback system in which customers can rate the food items provided (Adithya et al., 2017). According to a lot of studies, 50.8% of people buy food online since they prefer not to cook, as it allows them to have meals delivered straight to their household or work place in a short time (See-Kwong et al., 2017). This system provide also opportunities for business owners as they trust it helps their activities by earning more benefit and stay competitive on the market (Yang & Fang, 2004) and according to Heim and Sinha (2001), using e-commerce, the highest satisfaction was found in the OFD system during their researches.

### IV. Challenges

It is common known that food distribution is different from the distribution of other goods. Foods need continuous quality during the delivery time. Therefore in OFD, quality, healthiness and safety are principal concern (Akkerman, 2010), since many food items are perishable, OFD retailers must be time sensitive (Heim & Sinha, 2001). Diverse disadvantages bring different challenges to deal with in an OFD system. The problems encountered with online sale in food domain are mostly related to delayed delivery rather than the product itself (Morganti et al., 2014) as the food choice is done by the consumer, and after being sure of what he wants eat. The customer loyalty is the most important within the OFD service. Without customer loyalty, even the great company using e-commerce system will go bankrupt (Anderson & Srinivasan 2003). So companies

will struggle to overcome this challenge by trying to continually satisfy their customers and develop relationships with customers in order to develop a loyal customer base for the prosperity of the company. Loyalty is always contingent on the competitive state of the company (Cude & Morganosky 2001, Morganosky & Cude, 2002). It is indicated that some factors such as security system (especially towards delivery men, how to regularly control them), website cost, computer ethics, infrastructure cost advertising, etc. need to be well handled. If it was praised for earning more benefit, it can also abruptly make loss. For example the oldest US grocery shopping service lost 21 million USD in 1998 (Morganosky & Cude, 2000). While it is often associated with the increase of costs added work for kitchen, and the decline of service quality, a comprehensive review on its feasibility is strongly encouraged.

## V. Conclusion

Internet supports not only a communications but it allow companies to make prosperous business. The online delivery system grew rapidly, brought novelty and ease to both customers and entrepreneurs. The OFD had its effective rise since mobile smart phone and internet become common, that contributed to the advent of app, websites and platforms used by many restaurant chains for offering this service worldwide. Obviously, the system can help increase the profitability of vendors and can also help restaurants and customers to save time, but it has own weak points in term of technology cost and customer's satisfaction which mostly determine the loyalty of consumers. Nevertheless, in general the OFD is essential as it generates reciprocal gain, (for companies and consumers); especially in countries with great demography that the queuing (traditional) system remain unable to produce great and positive effects, as one of direct earning money factor for OFD remain the big population. That is why in our review, china revealed to be the first in annual revenue, even in future years extrapolations. The lockdown during the COVID-19 pandemic is a crucial factor in high increase worldwide of OFD incomes. We suggest that restaurants owners should consider and pay more attention to the changes in consumers' preference as it still remains dynamic, if they want to remain competitive in the foodservice in order to stabilize loyalty, and further researches should document more factors that influence loyalty of customers towards the restaurants chain.

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