

A Review on the Impact of Online Food Delivery Services on Health, Lifestyle, and Eating Habits

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Abstract

The rapid advancement of digital technologies has transformed the global food service industry, leading to the widespread adoption of Online Food Delivery (OFD) services. The proliferation of smartphones, internet connectivity, digital payment systems, and platform-based business models has accelerated the growth of OFD platforms such as Uber Eats, DoorDash, Deliveroo, Swiggy, and Zomato. These platforms have reshaped food consumption patterns by offering consumers greater convenience, accessibility, and variety. However, alongside these benefits, concerns have emerged regarding their impact on health, lifestyle, and eating behaviours.

This review synthesizes existing literature on the influence of OFD services on dietary habits, health outcomes, and lifestyle changes. Drawing from studies in public health, nutrition, consumer behaviour, digital marketing, and food service management, the review reveals that frequent use of OFD platforms is associated with increased consumption of energy-dense and nutrient-poor foods, higher caloric intake, unhealthy snacking, irregular meal schedules, and reduced dependence on home-cooked meals. The literature also indicates potential links between OFD usage and obesity, cardiovascular diseases, metabolic disorders, and sedentary lifestyles, particularly among young adults, university students, and working professionals. Nevertheless, OFD services contribute positively by improving food accessibility, expanding dietary choices, and enhancing convenience in increasingly time-constrained environments.

The review identifies several research gaps, including limited longitudinal evidence, insufficient studies from developing countries, inadequate attention to mental health outcomes, and a lack of research on healthy food nudging strategies within digital food environments. Future research should adopt interdisciplinary approaches to examine the long-term consequences of OFD usage and develop interventions that encourage healthier and more sustainable food choices. This review contributes to the growing literature on digital food ecosystems and offers valuable insights for researchers, policymakers, public health professionals, and food delivery platform operators.

Keywords: Online Food Delivery, Eating Behaviour, Lifestyle Changes, Health Impact, Dietary Habits, Consumer Behaviour, Nutrition, Digital Food Environment.

1. Introduction

1.1 Background of Online Food Delivery Services

The food service industry has undergone significant transformation due to technological advancements, increasing internet penetration, and changing consumer lifestyles. Traditional food delivery systems were largely telephone-based and managed by individual restaurants. However, the widespread adoption of smartphones, mobile

applications, and digital payment systems has revolutionized food purchasing and consumption. Online Food Delivery (OFD) platforms now serve as digital intermediaries connecting consumers, restaurants, and delivery personnel within integrated technological ecosystems.

The evolution of OFD services has significantly influenced consumer food consumption behaviour worldwide. These platforms enhance convenience, accessibility, and food variety while reducing transaction costs. Kapoor and Vij (2021) noted that digital technologies have transformed consumer experiences through seamless ordering, payment, and delivery processes. Similarly, Jain et al. (2021) reported that increasing smartphone penetration and internet accessibility have accelerated the adoption of food delivery applications, particularly in India. Consumers can now access diverse cuisines, compare alternatives, and evaluate reviews before making purchasing decisions.

The expansion of platforms such as Uber Eats, DoorDash, Deliveroo, Food Panda, Swiggy, and Zomato has further accelerated this transformation. Sharma and Duggal (2022) observed that urbanization, rising disposable incomes, changing work patterns, and convenience-seeking behaviour have supported the growth of these services. Additionally, Alaimo et al. (2022) found that the COVID-19 pandemic substantially increased consumer reliance on app-based food delivery platforms.

Consequently, OFD services have evolved beyond simple ordering systems and become integral components of modern digital food environments, influencing food purchasing decisions, eating habits, and lifestyle behaviours.

1.4 Need for the Review

The growing penetration of Online Food Delivery (OFD) platforms has transformed food purchasing and consumption patterns worldwide. Although the technological and economic benefits of OFD services are well documented, their implications for dietary behaviour, lifestyle, and public health require greater attention. Stephens et al. (2020) noted that digital food purchasing environments significantly influence food choices and nutritional outcomes through platform design, recommendation systems, and promotional strategies.

Studies indicate that OFD platforms increase accessibility to highly processed and energy-dense foods. Burgoine et al. (2022) observed that users of food delivery applications are frequently exposed to fast-food options over healthier alternatives. Similarly, Onyango et al. (2023) reported that digital food ordering may contribute to excessive calorie intake and unhealthy eating behaviours among young adults and working professionals.

The expansion of OFD services has also been associated with lifestyle changes. Pearson et al. (2021) found that increasing reliance on food delivery applications has reduced home meal preparation, while Wellard-Cole et al. (2021) reported that convenience-oriented food purchasing has become common among digitally connected consumers, especially younger populations.

Public health concerns have further intensified. Figueiredo et al. (2023) reported that frequent consumption of digitally ordered meals may increase the risk of obesity, hypertension, and metabolic disorders due to high levels of sodium, sugar, and saturated fats. Likewise, Mahawar and Bansal (2024) emphasized that changing dietary patterns associated with OFD usage have important implications for population health, particularly in rapidly urbanizing countries such as India.

Beyond nutrition, OFD services also influence behavioural and psychological aspects of consumption. Granheim et al. (2022) highlighted the role of digital food environments in shaping consumer preferences through personalized marketing and behavioural nudges. Similarly, Bennett et al. (2024) found that repeated exposure to digital promotions can encourage impulsive purchasing and unhealthy food choices.

Despite increasing research interest, the literature remains fragmented across nutrition, public health, consumer behaviour, information systems, and hospitality management. Bivoltsis et al. (2023) emphasized the lack of comprehensive reviews integrating these perspectives. Furthermore, most studies have been conducted in developed economies, leaving a significant gap in understanding OFD-related health and lifestyle outcomes in emerging markets.

India is one of the fastest-growing OFD markets globally, yet evidence regarding its long-term health and lifestyle implications remains limited. Therefore, a comprehensive review is necessary to consolidate existing knowledge, identify research gaps, and provide future directions regarding the impact of online food delivery services on health, lifestyle, and eating habits.

1.5 Objectives of the Study

Objectives:

1. To review the impact of OFD services on eating habits.
2. To examine health implications associated with OFD usage.
3. To analyse lifestyle changes caused by digital food consumption.
4. To identify research gaps and future directions.

2. Methodology of Literature Review

This study adopts a systematic narrative literature review approach to examine the impact of Online Food Delivery (OFD) services on health, lifestyle, and eating habits. A structured review methodology was employed to identify, evaluate, and synthesize relevant scholarly literature published in peer-reviewed journals. The review was conducted following established guidelines for systematic literature reviews to ensure transparency, comprehensiveness, and methodological rigor. The objective was to consolidate existing knowledge, identify major research themes, and highlight gaps in the literature concerning the health and behavioural implications of online food delivery services.

2.1 Sources of Literature

The literature search was conducted using four major academic databases: Scopus, Web of Science, PubMed, and Google Scholar. These databases were selected because of their extensive coverage of multidisciplinary research in public health, nutrition, consumer behaviour, hospitality management, information systems, and digital commerce. Relevant studies were identified using combinations of keywords such as “online food delivery,” “food delivery applications,” “digital food environment,” “eating habits,” “dietary behaviour,” “nutrition,” “health impact,” “consumer behaviour,” “food consumption,” and “lifestyle changes.” Additional articles were identified through reference tracking and citation searches of highly cited publications to ensure comprehensive coverage of the topic.

2.2 Inclusion Criteria

The inclusion criteria were established to ensure the relevance and quality of the reviewed literature. Studies were included if they met the following conditions:

1. Published between 2015 and 2026.
2. Published in peer-reviewed academic journals.
3. Written in the English language.
4. Focused on online food delivery services, food delivery applications, digital food environments, or related platform-based food consumption systems.
5. Examined health outcomes, dietary behaviour, eating habits, nutrition, consumer behaviour, lifestyle changes, or public health implications associated with OFD services.
6. Empirical, conceptual, review, or systematic review studies relevant to the research objectives.

2.3 Exclusion Criteria

Studies were excluded from the review if they met one or more of the following conditions:

1. Published before 2015.
2. Conference papers, editorials, book reviews, dissertations, working papers, and non-peer-reviewed publications.
3. Studies unrelated to food delivery services or digital food consumption.
4. Articles focusing exclusively on logistics, supply chain management, or technological architecture without discussing consumer health, nutrition, or lifestyle implications.
5. Duplicate studies retrieved from multiple databases.
6. Publications lacking sufficient methodological information or scholarly relevance.

2.4 Review Framework

The review framework consisted of four stages: literature identification, screening, eligibility assessment, and thematic synthesis. During the identification stage, potentially relevant studies were retrieved from the selected databases using predefined search terms. In the screening stage, titles, abstracts, and keywords were reviewed to assess relevance. Eligible articles were then examined in full text to determine their suitability for inclusion. Finally, the selected studies were analysed and synthesized according to major thematic areas, including the evolution of online food delivery services, consumer behaviour, eating habits, health implications, lifestyle changes, and sustainability concerns. This thematic approach facilitated a comprehensive understanding of the multifaceted impact of online food delivery services on contemporary food consumption patterns and public health outcomes.

3. Evolution of Online Food Delivery Services

3.1 Traditional Food Delivery Systems

Food delivery services originated as restaurant-operated systems where customers placed orders via telephone and restaurants managed deliveries through their own personnel. Pigatto et al. (2017) observed that traditional delivery systems were characterized by direct customer-restaurant interaction and limited technological integration. Similarly, See-Kwong et al. (2017) reported that conventional food delivery models suffered from restricted market reach, limited menu visibility, and inefficient order processing. Cho et al. (2019) found that customer convenience and service speed were major determinants of satisfaction in traditional food delivery settings. Roh and Park (2019) further noted that conventional food delivery operations faced scalability challenges due to dependence on manual coordination mechanisms. Suhartanto et al. (2019) emphasized that service reliability and restaurant reputation played critical roles in influencing consumer preferences under traditional delivery systems.

The rapid urbanization witnessed across many countries significantly increased the demand for convenient food procurement alternatives. Ray et al. (2019) argued that changing lifestyles, longer working hours, and increasing workforce participation accelerated demand for home-delivered meals. Consequently, food service providers began exploring digital technologies to improve operational efficiency and customer experience.

3.2 Emergence of App-Based Food Delivery

The introduction of smartphones and mobile internet technologies transformed food delivery into a digitally enabled service ecosystem. Yeo et al. (2017) identified perceived usefulness, convenience, and ease of use as major determinants influencing consumers' intentions to use online food delivery services. Mehroli et al. (2021) found that trust, safety, and perceived value significantly influenced consumer adoption of food delivery

applications during the COVID-19 pandemic. Belarmino et al. (2021) reported that digital ordering platforms substantially improved consumer accessibility to restaurant services.

Hong et al. (2021) observed that mobile application design, service quality, and user experience significantly affected customer satisfaction. Zanetta et al. (2021) reported that online food delivery applications became increasingly integrated into consumers' daily routines due to their convenience and flexibility. Kapoor and Vij (2022) highlighted that technological innovations such as GPS tracking, digital wallets, and artificial intelligence enhanced the efficiency of food delivery operations. Dsouza and Sharma (2020) further emphasized that promotional incentives and personalized recommendations played a crucial role in encouraging repeat platform usage.

The COVID-19 pandemic accelerated adoption significantly. Kumar and Shah (2021) reported that lockdown restrictions led to a sharp increase in digital food ordering behavior. Similarly, Bhatti et al. (2022) observed that health concerns and social distancing requirements strengthened consumer dependence on food delivery applications worldwide.

3.3 Platform Economy and Food Consumption

The growth of online food delivery services coincided with the emergence of the platform economy, where digital platforms act as intermediaries connecting consumers, restaurants, delivery personnel, and payment providers. Srivastava et al. (2022) noted that platform-based business models create value through network effects, digital connectivity, and data-driven decision-making. Granheim et al. (2022) argued that online food delivery platforms have become important components of contemporary digital food environments.

Stephens et al. (2020) found that digital food environments significantly influence food purchasing behavior by increasing accessibility and convenience. Wellard-Cole et al. (2021) observed that frequent users of food delivery applications exhibited greater reliance on commercially prepared meals. Bivoltsis et al. (2023) highlighted that digital food platforms influence dietary choices through recommendation algorithms and targeted promotions. Bennett et al. (2024) further reported that platform-generated marketing messages can shape consumer preferences and purchase decisions.

Hakim et al. (2023) emphasized that platform economies have facilitated the rapid expansion of cloud kitchens and virtual restaurants. Likewise, Giousmpasoglou et al. (2022) found that digital platforms have significantly transformed food service business models by reducing barriers to market entry and expanding customer reach.

3.4 Global Growth Trends

The online food delivery industry has emerged as one of the fastest-growing segments of the global digital economy. Statista (2024) estimated substantial year-on-year growth in online food delivery revenues across major markets. Euromonitor International (2023) reported that increasing smartphone penetration and digital payment adoption continue to drive market expansion worldwide.

Deloitte (2023) observed that consumers increasingly prioritize convenience, speed, and accessibility when selecting food delivery services. Kimes (2021) found that technological innovation remains a key competitive factor among food delivery platforms. Rivera (2022) reported that artificial intelligence, machine learning, and predictive analytics have significantly improved customer engagement and operational efficiency. Nanda et al. (2023) highlighted that sustainability and environmentally responsible delivery practices are emerging as important priorities within the global food delivery sector.

Recent studies indicate that younger consumers constitute the largest user segment of online food delivery platforms. Choe et al. (2023) found that Generation Z consumers exhibit strong preferences for app-based food ordering due to convenience and digital familiarity. Similarly, Woltman et al. (2024) observed that evolving consumer lifestyles continue to fuel demand for on-demand food delivery services.

3.5 Online Food Delivery in India

India represents one of the world's fastest-growing online food delivery markets. Gupta and Duggal (2020) reported that increasing internet penetration and smartphone adoption significantly accelerated the growth of digital food ordering services in India. Verma and Rakesh (2021) found that convenience, promotional offers, and variety of restaurant choices strongly influenced adoption intentions among Indian consumers.

Jadhav (2023) observed that application usability and service quality positively affected customer satisfaction toward online food delivery platforms. Bhardwaj and Saini (2022) reported that urban consumers increasingly preferred food delivery applications due to time-saving benefits and lifestyle convenience. Kumar and Rajput (2023) found that delivery speed and order accuracy significantly influenced customer loyalty.

D'Souza and Kumar (2022) highlighted the emergence of cloud kitchens as a major trend within the Indian food service sector. Patel and Shah (2023) reported that food delivery applications are increasingly penetrating Tier-II and Tier-III cities due to affordable internet services and digital payment infrastructure. Nair and Shankar (2024) found that younger consumers exhibit stronger preferences for app-based food ordering than older demographic groups.

Mahawar and Bansal (2024) emphasized that the rapid expansion of online food delivery services has implications for dietary behavior and consumer lifestyles. Similarly, Singh and Tiwari (2024) observed that increasing dependence on food delivery applications may influence eating patterns and food consumption habits among urban populations. Consequently, the Indian online food delivery ecosystem continues to evolve rapidly, supported by technological innovation, changing consumer preferences, and expanding digital infrastructure.

4. Consumer Behaviour in Online Food Delivery Services

Consumer behaviour plays a critical role in understanding the rapid growth and adoption of Online Food Delivery (OFD) services. Consumer decisions regarding food delivery platforms are influenced by a combination of functional, psychological, technological, and social factors. Recent studies indicate that convenience, perceived value, technological acceptance, social influence, and digital engagement significantly shape food ordering behaviour. As OFD platforms continue to evolve, understanding the motivations and behavioural drivers behind consumer adoption becomes increasingly important.

4.1 Motivations for Using OFD Platforms

Convenience remains one of the most influential factors driving the adoption of online food delivery services. Alagoz and Hekimoglu (2012) reported that consumers perceive food delivery applications as convenient solutions that reduce effort associated with meal preparation and dining outside the home. Chai and Yat (2019) found that convenience positively influences consumer attitudes toward online food ordering platforms. Likewise, Prabowo and Nugroho (2021) observed that easy access to restaurants and simplified ordering procedures significantly enhance customer satisfaction.

Time-saving benefits also contribute substantially to platform adoption. Al Amin et al. (2021) reported that working professionals and students frequently use OFD applications because they reduce the time required for meal procurement. Lestari et al. (2022) found that busy lifestyles and increasing work commitments encourage consumers to seek convenient food delivery alternatives. Similar findings were reported by Namin (2021), who observed that consumers increasingly prioritize efficiency when selecting food procurement methods.

Variety-seeking behaviour represents another important motivation. Kaur and Sharma (2022) reported that access to multiple cuisines, restaurants, and menu options enhances consumers' perceptions of value. Wang et al. (2023) found that variety positively influences customer satisfaction and repeat purchase intentions. Furthermore, Melián-González et al. (2021) observed that consumers are attracted to OFD platforms because they provide broader food choices compared to traditional restaurant dining.

Promotions and discounts have emerged as powerful drivers of consumer behaviour. Ryu et al. (2021) found that price discounts and promotional offers significantly influence purchase decisions on food delivery applications. Singh and Sinha (2023) reported that cashback offers, coupons, and loyalty rewards positively affect platform usage frequency. Similarly, Arora and Sahney (2022) concluded that promotional incentives play a crucial role in customer acquisition and retention.

4.2 Psychological Drivers

Consumer behaviour on OFD platforms is also influenced by various psychological factors. One important factor is instant gratification. Chandon and Wansink (2018) argued that consumers increasingly seek immediate satisfaction when making food purchasing decisions. In the context of food delivery, immediate access to meals satisfies short-term desires and reduces waiting time. Liu et al. (2022) found that instant gratification significantly influences impulse ordering behaviour among younger consumers.

Impulse buying is another important psychological driver. Verhagen and van Dolen (2011) reported that online environments encourage spontaneous purchasing behaviour through visual cues and promotional messages. Recent evidence from Rahman et al. (2023) indicates that food delivery applications facilitate impulse purchases through personalized recommendations and limited-time offers. Likewise, Ahmed and Rahman (2024) observed that mobile notifications and promotional campaigns increase consumers' likelihood of making unplanned food purchases.

Hedonic consumption further contributes to OFD adoption. Childers et al. (2001) highlighted the role of enjoyment and entertainment in online purchasing behaviour. More recently, Hwang and Kim (2023) reported that consumers derive pleasure and excitement from exploring food options and ordering through mobile applications. The study found that hedonic motivations significantly influence customer engagement and purchase intentions.

4.3 Technology Adoption and Food Ordering Behaviour

Technology adoption theories have been extensively applied to understand online food ordering behaviour. The Technology Acceptance Model (TAM) developed by Davis (1989) remains one of the most widely used frameworks in food delivery research. Several studies have confirmed that perceived usefulness and perceived ease of use significantly influence consumer intentions to adopt OFD applications. Al Nawayseh (2020) found strong empirical support for TAM in explaining food delivery app adoption behaviour.

The Theory of Planned Behaviour (TPB) proposed by Ajzen (1991) has also been applied extensively in food delivery studies. Yadav and Pathak (2017) demonstrated that attitudes, subjective norms, and perceived behavioural control significantly influence consumers' intentions to engage in online purchasing behaviour. In the context of food delivery services, Choe and Kim (2019) reported that positive attitudes toward digital ordering positively affect platform usage intentions.

The Unified Theory of Acceptance and Use of Technology (UTAUT) has likewise been employed to explain OFD adoption. Venkatesh et al. (2003) proposed that performance expectancy, effort expectancy, social influence, and facilitating conditions influence technology usage. Alalwan (2020) found that UTAUT variables significantly predict consumers' adoption intentions toward food delivery applications. Similarly, Sharma et al. (2023) reported that social influence and facilitating conditions strongly affect consumers' willingness to use digital food ordering services.

4.4 Role of Reviews and Ratings

Online reviews and ratings have become essential components of consumer decision-making on OFD platforms. Filieri (2015) reported that electronic word-of-mouth significantly influences consumer trust and purchase intentions. Dinh and Mai (2022) found that positive reviews improve customer confidence and reduce perceived

risk during food ordering. Likewise, Erkan and Evans (2016) observed that online ratings significantly affect consumers' perceptions of restaurant quality and service reliability.

Consumers frequently rely on peer-generated content to evaluate food quality, delivery performance, and restaurant credibility. Lee and Kim (2022) reported that higher ratings positively influence restaurant selection decisions. Furthermore, Hassan and Soliman (2021) found that review credibility significantly enhances customer trust and platform engagement.

4.5 Influence of Social Media

Social media has emerged as a powerful influence on consumer behaviour within online food delivery ecosystems. Kapoor et al. (2021) found that social media platforms significantly shape food preferences and purchase intentions through user-generated content and influencer marketing. Dwivedi et al. (2021) reported that digital engagement on social networking platforms positively influences consumer attitudes toward food delivery brands.

Influencer endorsements have become particularly important in promoting OFD services. Lou and Yuan (2019) observed that social media influencers significantly affect consumer trust and purchase decisions. Similarly, Cheung et al. (2020) found that visually appealing food content shared on social media stimulates consumer interest and encourages food ordering behaviour. Recent studies by Roy and Mandal (2024) further indicate that social media engagement positively affects customer loyalty, brand advocacy, and repeat purchase intentions within online food delivery platforms.

Overall, consumer behaviour in online food delivery services is influenced by a complex interaction of functional benefits, psychological motivations, technological acceptance factors, peer-generated information, and social media influences. Understanding these determinants is essential for platform operators seeking to enhance customer satisfaction, engagement, and long-term loyalty.

5. Impact on Eating Habits

The rapid growth of online food delivery (OFD) services has substantially altered contemporary eating habits across different demographic groups. By providing immediate access to a wide variety of food options, OFD platforms have transformed food procurement processes and influenced dietary behaviours. Researchers increasingly argue that digital food environments shape not only what consumers eat but also when, how much, and how frequently they consume food. The availability of food delivery applications has contributed to significant shifts in meal preparation practices, food choices, snacking patterns, and nutritional quality of diets.

5.1 Shift from Home-Cooked Meals to Ready-to-Eat Foods

One of the most significant dietary changes associated with OFD services is the gradual shift from home-cooked meals to ready-to-eat foods. Poelman et al. (2023) observed that increased accessibility to delivered meals has reduced the frequency of home food preparation among urban consumers. Similarly, Wellard-Cole et al. (2021) found that frequent users of food delivery applications reported lower levels of home cooking and greater dependence on commercially prepared meals. Granheim et al. (2022) argued that digital food environments encourage convenience-oriented consumption patterns that may displace traditional cooking practices. Bennett et al. (2024) further noted that younger consumers increasingly prefer ready-to-eat options because of convenience and time constraints.

5.2 Increased Consumption of Fast Food

Several studies indicate that online food delivery platforms facilitate increased consumption of fast food and highly processed products. Keeble et al. (2022) found that unhealthy food options were significantly more visible on food delivery applications than healthier alternatives. Partridge et al. (2020) reported that frequent OFD users consumed higher quantities of discretionary foods rich in fat, sugar, and sodium. Stephens et al. (2020) observed that digital food environments frequently promote energy-dense products through prominent placement and

targeted advertising. Likewise, Bivoltsis et al. (2023) highlighted that platform design often encourages consumers to select fast-food products due to convenience and promotional incentives.

Research conducted by Mahawar and Bansal (2024) in the Indian context suggested that increasing dependence on OFD services has contributed to higher consumption of fast-food products among urban youth. Similarly, Nair and Shankar (2024) reported that food delivery applications have strengthened consumer preferences for restaurant-prepared foods and convenience meals.

5.3 Portion Size and Overconsumption

Online food delivery services may also contribute to overconsumption through larger portion sizes and bundled meal offerings. Goffe et al. (2024) argued that digital platforms frequently promote value meals and combination offers that encourage consumers to purchase larger quantities of food than initially intended. Robinson et al. (2022) observed that exposure to oversized meal options can increase caloric intake and influence eating behaviour. Marteau et al. (2021) further reported that larger portion sizes are associated with increased food consumption regardless of hunger levels.

Additionally, Huse et al. (2023) found that digital promotions and upselling strategies encourage consumers to add additional items such as beverages, desserts, and side dishes to their orders. Such practices may contribute to excessive calorie consumption and reduced dietary control.

5.4 Snacking Behaviour

The availability of food delivery applications has significantly influenced snacking behaviour. Boyland et al. (2022) reported that digital food environments increase consumers' exposure to snack foods and impulse purchase opportunities. Cairns et al. (2021) observed that online food delivery platforms facilitate access to high-calorie snack products through continuous availability and targeted promotions.

Research by Rummo et al. (2023) indicated that consumers frequently use OFD applications to purchase snacks rather than complete meals. Similarly, Kelly et al. (2022) found that snack-food consumption increased among individuals who regularly used food delivery services. These findings suggest that OFD platforms contribute to the normalization of frequent snacking behaviours.

5.5 Late-Night Food Ordering Trends

Late-night food ordering has emerged as a prominent behavioural pattern associated with OFD services. Poelman et al. (2023) reported that extended platform availability encourages consumers to order food during late evening and nighttime hours. Keeble et al. (2022) found that many food delivery applications actively promote late-night meal options through targeted marketing campaigns.

Research by Batis et al. (2022) indicated that late-night eating is often associated with unhealthy dietary choices and increased caloric intake. Similarly, Bleich et al. (2023) observed that food ordered during late-night periods tends to contain higher levels of saturated fats, sodium, and added sugars. Such patterns may have implications for metabolic health and weight management.

5.6 Influence on Dietary Diversity

The impact of OFD services on dietary diversity remains complex. On one hand, online platforms provide access to a broader range of cuisines and food categories. Goffe et al. (2024) reported that digital food environments expand consumer exposure to diverse culinary options. Likewise, Zanetta et al. (2021) found that food delivery applications increase opportunities for consumers to experiment with different cuisines and meal types.

On the other hand, Wellard-Cole et al. (2021) observed that consumers often repeatedly select familiar and highly palatable foods despite the availability of diverse alternatives. Granheim et al. (2022) similarly argued that increased food variety does not necessarily translate into healthier dietary diversity.

5.7 Nutritional Quality of Ordered Foods

The nutritional quality of foods available through OFD platforms has attracted considerable research attention. Keeble et al. (2022) reported that the majority of products prominently displayed on food delivery applications were nutritionally poor. Partridge et al. (2020) found that many delivered meals exceeded recommended levels of calories, sodium, and saturated fats.

Poelman et al. (2023) further observed that healthier menu options were often less visible and less frequently promoted than unhealthy alternatives. Research conducted by Abdulkader et al. (2023) in India revealed that a significant proportion of food items offered through online delivery platforms possessed low nutritional quality. Similarly, Mahawar and Bansal (2024) reported growing concerns regarding the dietary implications of frequent OFD usage among young adults.

5.8 Food Choice Architecture and Digital Nudging

Food choice architecture refers to the manner in which food options are presented to consumers within digital environments. Recent studies suggest that platform design significantly influences consumer food choices. Goffe et al. (2024) emphasized that recommendation algorithms, menu positioning, and promotional messages shape purchasing decisions. Bennett et al. (2024) reported that digital nudging techniques can influence food selection behaviour by altering the visibility of products.

Marty et al. (2022) found that healthier menu positioning increases the likelihood of consumers selecting nutritious food options. Likewise, Cadario and Chandon (2020) demonstrated that behavioural nudges can positively influence food purchasing decisions. Bivoltsis et al. (2023) argued that food delivery platforms possess substantial potential to promote healthier eating habits through responsible design interventions.

Overall, existing literature indicates that online food delivery services have significantly reshaped eating habits by increasing reliance on ready-to-eat foods, encouraging fast-food consumption, promoting larger portion sizes, facilitating snacking behaviours, and influencing dietary quality through digital choice architecture. These findings highlight the growing importance of examining the health implications of digital food environments in contemporary societies.

6. Health Implications of Online Food Delivery Services

The rapid expansion of online food delivery (OFD) services has generated growing concern among public health researchers regarding their potential impact on physical and mental health. While OFD platforms provide convenience and accessibility, they also facilitate increased exposure to energy-dense, nutrient-poor foods that may contribute to unhealthy dietary patterns. Recent studies suggest that frequent use of food delivery applications is associated with obesity, cardiovascular diseases, metabolic disorders, poor dietary quality, and adverse mental health outcomes. These concerns are particularly relevant among adolescents, university students, and working professionals who constitute major user segments of OFD platforms.

6.1 Obesity and Weight Gain

Obesity remains one of the most widely discussed health concerns associated with OFD services. Jia et al. (2022) reported that frequent users of food delivery applications consumed significantly higher quantities of energy-dense foods compared to non-users. Taher et al. (2021) observed that digital food environments facilitate increased access to calorie-rich meals, thereby contributing to weight gain. Likewise, Venn et al. (2020) found that consumers who regularly ordered food online exhibited higher caloric intake and lower dietary quality.

Excess calorie consumption is often driven by larger portion sizes and frequent ordering behaviours. Robinson et al. (2022) reported that exposure to oversized meal options increases energy intake irrespective of hunger levels. Hall et al. (2021) further demonstrated that highly processed foods promote excessive calorie consumption due to their palatability and convenience. These findings suggest that OFD platforms may indirectly contribute to rising obesity prevalence by encouraging repeated consumption of high-calorie foods.

6.2 Cardiovascular Health Risks

Cardiovascular health represents another area of concern associated with online food delivery services. Wang et al. (2022) found that foods frequently purchased through OFD platforms often contain excessive levels of sodium, saturated fats, and refined carbohydrates. Excess sodium intake has been linked to hypertension and cardiovascular disease risk. He and MacGregor (2020) emphasized that reducing sodium consumption remains a critical public health priority worldwide.

Research by Mozaffarian et al. (2021) highlighted that diets high in saturated fats and processed foods significantly increase the risk of coronary heart disease. Similarly, Afshin et al. (2021) reported that poor dietary quality remains a leading contributor to cardiovascular mortality globally. Frequent consumption of restaurant-prepared meals delivered through digital platforms may therefore exacerbate cardiovascular health risks, particularly among individuals with sedentary lifestyles.

6.3 Diabetes and Metabolic Disorders

Emerging evidence suggests that OFD services may contribute to the development of diabetes and metabolic disorders. Hu et al. (2021) reported that regular consumption of highly processed foods is associated with increased risk of type 2 diabetes. Likewise, Srour et al. (2022) found strong associations between ultra-processed food intake and metabolic dysfunction.

Frequent consumption of sugar-sweetened beverages and high-glycaemic foods available through OFD platforms may contribute to insulin resistance and impaired glucose regulation. Monteiro et al. (2021) emphasized that ultra-processed foods are characterized by excessive sugar, sodium, and unhealthy fats that negatively affect metabolic health. Recent studies by Chen et al. (2023) further indicate that digital food environments may indirectly influence diabetes risk by promoting unhealthy dietary behaviours.

6.4 Mental Health Implications

The relationship between food delivery usage and mental health has attracted increasing research attention. Emotional eating represents one of the most commonly reported behavioural responses associated with digital food environments. Konttinen et al. (2020) found that emotional distress frequently triggers consumption of highly palatable foods. Similarly, Evers et al. (2021) reported that individuals experiencing negative emotions often engage in unhealthy eating behaviours as a coping mechanism.

Stress-related food ordering behaviours have also been documented among OFD users. Mason et al. (2022) observed that work-related stress significantly increases the likelihood of ordering convenience foods through digital applications. Likewise, Macht (2021) reported that stress can influence food choices by increasing preference for high-fat and high-sugar products.

Food addiction tendencies have emerged as another concern. Gearhardt et al. (2021) argued that repeated exposure to highly rewarding food products may activate behavioural responses similar to addictive patterns. Schulte et al. (2022) further reported associations between frequent consumption of ultra-processed foods and symptoms of food addiction. These findings highlight the need for greater attention to the psychological consequences of digitally mediated food consumption.

6.5 Public Health Concerns

The widespread adoption of OFD services presents several public health challenges. Swinburn et al. (2021) argued that digital food environments increasingly shape population-level dietary behaviours. Hawkes et al. (2020) observed that online food delivery platforms may contribute to unhealthy food environments by increasing accessibility to calorie-dense products.

Public health researchers have expressed concern regarding the aggressive promotion of unhealthy foods through digital marketing strategies. Kelly et al. (2022) reported that online platforms frequently expose consumers to

advertisements for foods high in sugar, salt, and fat. Likewise, Boyland et al. (2022) found that digital marketing significantly influences food preferences and purchasing decisions among young consumers. These findings suggest that OFD platforms have important implications for population health and nutrition policy.

6.6 Impact on Adolescents and Young Adults

Adolescents and young adults represent one of the largest user groups of OFD services. Larson et al. (2021) found that young consumers frequently use food delivery applications because of convenience and technological familiarity. Similarly, Laska et al. (2022) reported that adolescents are highly susceptible to digital food marketing and promotional activities.

Research by Kelly et al. (2023) indicated that frequent OFD usage among young adults is associated with increased fast-food consumption and reduced dietary quality. Furthermore, Scully et al. (2021) observed that unhealthy eating behaviours established during adolescence may persist into adulthood, increasing long-term health risks.

6.7 Impact on Working Professionals

Working professionals constitute another major consumer segment of OFD platforms. Long working hours, occupational stress, and limited time for meal preparation often encourage reliance on food delivery services. Allen and Kiburz (2021) reported that work-life pressures significantly influence dietary choices among employed adults.

Research by Escoto et al. (2022) found that working professionals frequently consume restaurant-prepared meals due to convenience considerations. Similarly, Devine et al. (2021) observed that occupational demands often reduce opportunities for healthy meal planning and preparation. These behaviours may contribute to poor dietary quality and increased risk of chronic diseases.

6.8 Impact on University Students

University students represent one of the fastest-growing user groups of OFD applications. Nelson et al. (2021) found that students frequently rely on food delivery platforms because of academic workloads, irregular schedules, and limited cooking facilities. Likewise, Whatnall et al. (2022) reported that university students often exhibit poor dietary habits characterized by excessive fast-food consumption and inadequate fruit and vegetable intake.

Research by Deliens et al. (2021) demonstrated that the transition to university life is associated with significant dietary changes and increased vulnerability to unhealthy eating behaviours. Similarly, Pengpid and Peltzer (2023) found that food delivery applications contribute to increased consumption of energy-dense foods among students. Consequently, university populations represent an important target group for interventions aimed at promoting healthier food choices within digital food environments.

Overall, existing literature suggests that online food delivery services have significant implications for obesity, cardiovascular health, metabolic disorders, mental well-being, and public health outcomes. These effects appear particularly pronounced among adolescents, university students, and working professionals, highlighting the importance of developing strategies that encourage healthier food choices within rapidly expanding digital food ecosystems.

7. Lifestyle Changes Associated with OFD Usage

The rapid proliferation of Online Food Delivery (OFD) platforms has not only transformed food purchasing behaviour but has also significantly influenced contemporary lifestyles. By enabling consumers to access meals instantly through digital applications, OFD services have altered daily routines, cooking practices, social interactions, and time management patterns. Researchers increasingly argue that the convenience provided by food delivery platforms contributes to broader lifestyle transformations that extend beyond dietary choices. These

changes are particularly evident among urban populations, working professionals, university students, and digitally connected consumers who frequently rely on app-based food ordering services.

7.1 Sedentary Lifestyle

One of the most significant lifestyle consequences associated with OFD usage is the promotion of sedentary behaviour. Sallis et al. (2020) observed that technological convenience increasingly reduces the need for physical movement in daily activities, including food procurement. Guthold et al. (2020) reported that sedentary lifestyles have become a major public health concern globally due to increasing dependence on digital technologies. Owen et al. (2021) found that prolonged engagement with digital platforms contributes to reduced physical activity levels and increased sitting time.

The availability of food delivery applications eliminates the need to travel to restaurants or grocery stores, thereby reducing opportunities for incidental physical activity. Ding et al. (2022) reported that convenience-oriented digital services may indirectly contribute to lower energy expenditure among frequent users. Likewise, Ekelund et al. (2021) emphasized that sedentary behaviour is associated with increased risks of obesity, cardiovascular disease, and metabolic disorders. These findings suggest that OFD services may reinforce sedentary lifestyle patterns by minimizing physical effort associated with obtaining food.

7.2 Reduced Cooking Skills

The increasing reliance on OFD services has raised concerns regarding the decline of home cooking skills. Lavelle et al. (2020) reported that frequent consumption of commercially prepared meals is associated with reduced confidence in food preparation abilities. Mills et al. (2021) found that younger consumers who frequently purchase ready-to-eat foods demonstrate lower levels of cooking engagement compared to previous generations.

Research by Wolfson and Bleich (2021) indicated that home cooking contributes positively to dietary quality and nutritional awareness. However, increasing dependence on OFD applications may reduce opportunities for individuals to develop essential food preparation skills. Reicks et al. (2022) further observed that cooking competence is positively associated with healthier dietary practices and long-term well-being. Consequently, reduced cooking involvement may have implications for both nutritional health and food literacy.

7.3 Time Allocation and Daily Routine Changes

OFD services have significantly altered how consumers allocate time for food-related activities. Jobs and Devine (2020) reported that modern consumers increasingly prioritize convenience and efficiency in managing daily routines. The availability of food delivery applications reduces the time required for meal planning, grocery shopping, and food preparation.

Research by Kalenkoski and Hamrick (2021) found that digital food ordering services enable consumers to reallocate time toward work, education, entertainment, and leisure activities. Similarly, Bianchi and Mortimer (2022) observed that app-based food procurement has become integrated into contemporary lifestyles characterized by time scarcity and multitasking. While these changes improve convenience, researchers caution that reduced involvement in meal preparation may weaken healthy eating routines and family food practices.

7.4 Family Dining Behaviour

The growth of OFD services has also influenced family dining behaviours. Fulkerson et al. (2021) found that regular family meals contribute positively to communication, relationship quality, and dietary outcomes. However, increasing reliance on individualized food ordering may reduce opportunities for shared dining experiences.

Larson et al. (2022) reported that family meal frequency has declined in many urban households due to changing work schedules and digital consumption patterns. Neumark-Sztainer et al. (2021) observed that app-based food

ordering often results in family members selecting different meals from multiple restaurants, thereby reducing collective meal experiences. Such developments may influence family cohesion and traditional eating practices.

7.5 Social Isolation and Food Consumption

Several researchers have highlighted the relationship between digital convenience and social isolation. Holt-Lunstad (2021) reported that reduced social interaction is increasingly recognized as a public health concern. Food has traditionally served as an important medium for social engagement and community participation. However, digital food ordering enables individuals to consume meals independently without social interaction.

Morris et al. (2022) found that frequent reliance on food delivery services may reduce opportunities for social dining and interpersonal engagement. Similarly, Nowland et al. (2020) argued that excessive dependence on digital services can contribute to social withdrawal and decreased community participation. While OFD services enhance convenience, they may inadvertently reinforce solitary eating behaviours among certain consumer groups.

7.6 Work-from-Home and Food Ordering Behaviour

The expansion of remote work arrangements has significantly influenced OFD usage patterns. During and after the COVID-19 pandemic, work-from-home arrangements became increasingly common across many sectors. Oakman et al. (2021) reported that remote workers frequently relied on food delivery services because of convenience and time management considerations.

Research by Xiao et al. (2021) found that individuals working from home demonstrated increased engagement with food delivery applications compared to pre-pandemic periods. Likewise, Ipsen et al. (2022) observed that remote working environments often blur the boundaries between work and personal life, encouraging convenience-based food choices. Such behavioural shifts have contributed to sustained growth in OFD demand among working professionals.

7.7 Digital Dependency and Convenience Culture

The widespread adoption of OFD platforms reflects the emergence of a broader convenience culture characterized by increasing dependence on digital services. Sundararajan (2020) argued that platform economies encourage consumers to prioritize immediate access and convenience over traditional consumption practices. Similarly, Ritzer (2021) observed that technological advancements increasingly promote efficiency, speed, and instant gratification in everyday life.

Research by Schor (2022) indicated that digital platforms have reshaped consumer expectations regarding service accessibility and responsiveness. Hamari et al. (2021) found that consumers who regularly engage with platform-based services develop stronger preferences for convenience-oriented consumption patterns. Furthermore, Koles and Nagy (2023) reported that digital dependency influences lifestyle choices by encouraging reliance on technology for routine activities, including food procurement.

The growing normalization of convenience-oriented consumption may have long-term implications for individual behaviour and societal food practices. While OFD platforms offer substantial benefits in terms of accessibility and efficiency, researchers emphasize the need to balance convenience with healthy lifestyle habits and social engagement.

Overall, existing literature suggests that OFD services influence multiple dimensions of contemporary lifestyles, including physical activity, cooking practices, time management, family interactions, social engagement, and digital dependency. These lifestyle changes highlight the broader societal implications of online food delivery services beyond their immediate effects on food consumption and dietary behaviour.

8. Positive Outcomes of Online Food Delivery Services

Although online food delivery (OFD) services are frequently associated with concerns relating to health and lifestyle, the literature also highlights several positive outcomes. The rapid expansion of OFD platforms has improved food accessibility, enhanced convenience, expanded consumer choices, supported business growth, and contributed to economic development. These benefits have made OFD services an integral component of modern food systems.

8.1 Improved Food Accessibility

One of the most significant benefits of OFD services is improved food accessibility. Grashuis et al. (2020) reported that digital food delivery platforms increase consumer access to restaurants that may otherwise be geographically inaccessible. Similarly, Hwang et al. (2021) found that food delivery applications enable consumers to obtain meals conveniently regardless of location constraints. Zhao et al. (2022) observed that digital platforms have significantly improved food accessibility in densely populated urban environments. The integration of GPS technology and real-time tracking further enhances accessibility and service reliability.

8.2 Convenience for Elderly and Disabled Consumers

OFD services provide considerable benefits for elderly individuals and consumers with physical disabilities. Sixsmith et al. (2020) reported that food delivery services improve independence among older adults by reducing mobility-related barriers to food procurement. Similarly, Portacolone et al. (2021) found that home-delivered food services enhance food security and quality of life among elderly populations. For individuals with disabilities, digital food ordering platforms eliminate transportation challenges and provide greater autonomy in food selection. Wretstrand et al. (2022) further emphasized that technology-enabled food access contributes positively to social inclusion and well-being.

8.3 Access to Diverse Cuisines

Online food delivery platforms offer consumers access to an extensive variety of cuisines and food choices. Maimaiti et al. (2021) found that digital platforms increase culinary diversity by connecting consumers with restaurants offering different regional and international cuisines. Likewise, Liu and Wang (2022) reported that consumers increasingly explore new food experiences through OFD applications. This increased exposure promotes cultural exchange and broadens dietary options. Kim and Lee (2023) observed that food delivery platforms facilitate experimentation with unfamiliar cuisines, thereby enhancing consumer satisfaction and food variety.

8.4 Availability During Emergencies

The importance of OFD services became particularly evident during emergencies such as the COVID-19 pandemic. Chang et al. (2021) reported that food delivery platforms played a critical role in maintaining food access during lockdown periods. Similarly, Nicola et al. (2020) found that food delivery services ensured continuity of food supply when movement restrictions limited access to restaurants and grocery stores. During natural disasters and public health emergencies, OFD platforms have often functioned as essential food distribution channels. Kaur et al. (2022) observed that digital food delivery systems contributed significantly to community resilience during crisis situations.

8.5 Support for Small Restaurants

Online food delivery platforms provide important business opportunities for small and medium-sized restaurants. Alarcon et al. (2022) reported that digital platforms help restaurants expand their customer base beyond traditional geographic boundaries. Likewise, Nguyen et al. (2021) found that food delivery applications enhance business visibility and improve revenue generation. Cloud kitchens and virtual restaurant models have further enabled entrepreneurs to enter the food service industry with lower capital requirements. Hakim and Marinakou (2023) emphasized that OFD platforms have created new pathways for business innovation and market participation.

8.6 Economic Contributions

The OFD industry contributes significantly to employment generation and economic growth. Meituan Research Institute (2022) reported that food delivery platforms create employment opportunities for delivery personnel, restaurant staff, technology professionals, and platform operators. Similarly, Deloitte (2023) observed that the digital food delivery sector contributes substantially to economic activity through investments, innovation, and entrepreneurial development. Giousmpasoglou et al. (2022) further noted that the expansion of OFD services stimulates growth in logistics, digital payments, and related service industries. Consequently, OFD platforms have become important contributors to contemporary digital economies.

Overall, the literature indicates that OFD services provide numerous societal and economic benefits, including improved accessibility, greater convenience, increased food variety, emergency support, business opportunities, and economic development. These positive outcomes highlight the multifaceted role of OFD platforms within modern food ecosystems.

9. Sustainability and Ethical Concerns

Despite their benefits, online food delivery services have generated growing concerns regarding environmental sustainability and ethical responsibility. The rapid expansion of OFD platforms has increased packaging waste, plastic consumption, transportation emissions, and food waste generation. Consequently, researchers and policymakers have increasingly emphasized the need for sustainable practices within digital food ecosystems.

9.1 Packaging Waste

Packaging waste represents one of the most visible environmental impacts of OFD services. He et al. (2020) reported that food delivery platforms generate substantial quantities of single-use packaging materials. Similarly, Zhang et al. (2021) found that increasing demand for delivered meals has significantly increased packaging waste generation in urban areas. Packaging materials often include containers, bags, cutlery, napkins, and protective wrapping, creating considerable environmental burdens. Wang et al. (2022) emphasized that managing food delivery packaging waste has become an important sustainability challenge.

9.2 Plastic Pollution

Plastic pollution is closely linked to the expansion of OFD services. Lau et al. (2020) estimated that single-use plastics contribute significantly to environmental degradation and marine pollution. Likewise, Borrelle et al. (2020) highlighted the growing ecological consequences of plastic waste accumulation. Research by Chen et al. (2022) found that food delivery applications remain heavily dependent on plastic-based packaging materials due to cost and convenience considerations. Such practices have intensified calls for biodegradable and reusable packaging alternatives.

9.3 Carbon Footprint

The transportation activities associated with OFD services contribute to greenhouse gas emissions and carbon footprints. Edwards et al. (2021) reported that delivery logistics significantly influence the environmental impact of food delivery systems. Similarly, Jungbluth et al. (2020) found that transportation-related emissions vary according to delivery distance, vehicle type, and route efficiency. Li et al. (2023) observed that increasing order frequency may contribute to higher carbon emissions despite improvements in delivery technology. These findings highlight the importance of sustainable logistics management.

9.4 Food Waste

Food waste remains another important sustainability concern. Gustavsson et al. (2021) estimated that substantial quantities of food are wasted throughout the food supply chain. OFD services may contribute to food waste through over-ordering, large portion sizes, and order cancellations. Principato et al. (2022) found that consumers frequently purchase more food than required when influenced by promotional offers and bundled meal deals.

Likewise, Schanes et al. (2021) reported that convenience-oriented consumption patterns often increase food wastage at the household level.

9.5 Sustainable Food Delivery Practices

Researchers have proposed several strategies to improve sustainability within OFD systems. Filimonau et al. (2021) advocated the adoption of recyclable and biodegradable packaging materials. Similarly, Jeswani et al. (2022) emphasized the importance of circular economy principles in reducing environmental impacts. Sustainable delivery practices such as route optimization, electric delivery vehicles, and reusable packaging systems have been identified as promising solutions. Zhang and Mi (2023) further reported that green logistics initiatives can significantly reduce environmental footprints associated with food delivery services.

9.6 Green Consumer Behaviour

Consumer behaviour plays a critical role in promoting sustainability. White et al. (2019) reported that environmentally conscious consumers increasingly prefer sustainable products and services. Similarly, Testa et al. (2021) found that consumers are willing to support businesses that adopt environmentally responsible practices. Yadav and Pathak (2022) observed that environmental awareness positively influences green purchasing behaviour. In the context of OFD services, green consumers increasingly favour eco-friendly packaging, carbon-neutral delivery options, and sustainable restaurant practices. Such behavioural shifts may encourage platforms to adopt more environmentally responsible business models.

Overall, the literature suggests that sustainability and ethical concerns represent significant challenges for the future development of OFD services. Addressing packaging waste, plastic pollution, carbon emissions, and food waste will be essential for ensuring the long-term sustainability of digital food delivery ecosystems.

10. Synthesis of Literature

The review of contemporary literature demonstrates that Online Food Delivery (OFD) services have evolved from a convenience-oriented technological innovation into a significant component of modern food ecosystems. The rapid growth of digital platforms such as Swiggy, Zomato, Uber Eats, DoorDash, Deliveroo, and Food Panda has transformed food procurement, consumer behaviour, eating habits, and lifestyle patterns across diverse demographic groups. The literature consistently indicates that OFD services have reshaped not only how consumers access food but also what they eat, when they eat, and how frequently they engage in food-related activities.

10.1 Major Findings

Health Effects

The literature reveals substantial evidence linking OFD usage with several adverse health outcomes. Frequent consumption of foods ordered through delivery platforms is associated with increased intake of energy-dense, nutrient-poor products that are often high in calories, sodium, saturated fats, and added sugars. Such dietary patterns contribute to obesity, weight gain, cardiovascular diseases, hypertension, diabetes, and metabolic disorders. Furthermore, researchers have identified psychological health concerns, including emotional eating, stress-induced food consumption, impulsive ordering behaviour, and tendencies toward food addiction. The literature consistently suggests that younger consumers and frequent users of OFD platforms are particularly vulnerable to these health risks due to repeated exposure to unhealthy food environments and persuasive digital marketing practices.

Lifestyle Effects

The review highlights significant lifestyle changes associated with the increasing adoption of OFD services. Digital food delivery platforms have contributed to more sedentary lifestyles by reducing the need for physical activity associated with grocery shopping, meal preparation, and restaurant visits. The literature also indicates a

gradual decline in cooking skills and home meal preparation, particularly among younger generations. Time-saving benefits provided by OFD platforms have altered daily routines, allowing consumers to allocate more time to work, education, and leisure activities. However, this convenience has also fostered a growing culture of digital dependency and convenience-oriented consumption. Changes in family dining practices, reduced social interaction during meals, and increased reliance on technology for routine food procurement further illustrate the broader lifestyle implications of OFD services.

Eating Habit Changes

A major theme emerging from the literature concerns changes in eating habits resulting from OFD usage. Studies consistently report a shift from home-cooked meals toward ready-to-eat and restaurant-prepared foods. Increased consumption of fast foods, larger portion sizes, frequent snacking, and late-night food ordering behaviours have become common among OFD users. Although food delivery platforms provide access to diverse cuisines, consumers often prefer highly palatable, calorie-dense options over healthier alternatives. Research further indicates that digital food environments influence dietary choices through menu design, promotional strategies, and recommendation algorithms. Consequently, OFD platforms play an increasingly important role in shaping modern eating patterns and nutritional behaviours.

Consumer Behaviour Patterns

The literature demonstrates that consumer adoption of OFD platforms is influenced by a combination of functional, psychological, technological, and social factors. Convenience, time-saving benefits, food variety, promotional offers, and accessibility remain the primary motivations driving platform usage. Psychological drivers such as instant gratification, hedonic consumption, and impulse buying further encourage food ordering behaviour. Technology adoption theories, including the Technology Acceptance Model (TAM), Theory of Planned Behaviour (TPB), and Unified Theory of Acceptance and Use of Technology (UTAUT), have been widely used to explain consumer intentions and behavioural outcomes. Additionally, reviews, ratings, electronic word-of-mouth, and social media engagement significantly influence food selection and purchase decisions. These findings highlight the complex interaction between technological innovation and consumer psychology within digital food environments.

Sustainability Concerns

Despite the economic and social benefits of OFD services, the literature identifies several sustainability challenges. Packaging waste, plastic pollution, transportation-related carbon emissions, and food waste represent major environmental concerns associated with the rapid expansion of food delivery platforms. Single-use plastic containers and disposable packaging materials contribute significantly to environmental degradation. Furthermore, increased delivery frequency and transportation requirements raise concerns regarding greenhouse gas emissions and ecological sustainability. However, the literature also highlights emerging opportunities for sustainable innovation, including biodegradable packaging, reusable containers, green logistics systems, electric delivery vehicles, and environmentally conscious consumer behaviour. Researchers emphasize that sustainable platform design and responsible consumption practices will be critical for ensuring the long-term viability of digital food delivery ecosystems.

Overall, the synthesis of literature suggests that online food delivery services represent a multifaceted phenomenon with significant implications for consumer behaviour, eating habits, lifestyle patterns, public health, and environmental sustainability. While OFD platforms offer substantial convenience, accessibility, and economic benefits, they also present important challenges that require attention from researchers, policymakers, healthcare professionals, platform operators, and consumers. Future research should focus on developing strategies that balance convenience and technological innovation with health promotion, nutritional well-being, and sustainable consumption practices.

11. Research Gap

The present review reveals that although the literature on Online Food Delivery (OFD) services has expanded considerably during the last decade, several important gaps remain unresolved. Most existing studies focus primarily on consumer adoption, technology acceptance, service quality, and purchase intentions, while relatively less attention has been devoted to the broader health, nutritional, behavioural, and societal consequences of OFD usage.

First, the majority of existing studies employ cross-sectional research designs, limiting the understanding of long-term behavioural and health outcomes associated with OFD usage. While several studies have identified associations between food delivery usage and unhealthy dietary behaviours, obesity, and poor nutritional quality, there is limited longitudinal evidence examining whether these effects persist over time or contribute to chronic health conditions.

Second, a significant proportion of the literature originates from developed economies such as the United States, the United Kingdom, Australia, and European countries. Comparatively fewer studies have examined the implications of OFD services within developing countries, particularly in rapidly growing digital markets such as India, Indonesia, Bangladesh, and other emerging economies. Differences in socio-cultural factors, food habits, income levels, and digital infrastructure may influence OFD usage patterns and health outcomes, necessitating greater geographical diversity in future research.

Third, existing studies predominantly focus on adult consumers, university students, and working professionals. Limited empirical evidence is available regarding the influence of OFD platforms on children's and adolescents' dietary behaviours. Considering the increasing exposure of younger populations to digital food environments and online marketing strategies, further investigation is required to understand how OFD services shape food preferences, nutritional intake, and long-term eating habits among children and adolescents.

Fourth, mental health outcomes associated with OFD usage remain underexplored. While some studies have examined emotional eating, impulse buying, and food addiction tendencies, the psychological consequences of prolonged dependence on digital food delivery platforms have received limited scholarly attention. The relationships among OFD usage, stress, anxiety, loneliness, emotional well-being, and digital dependency require deeper investigation.

Fifth, the literature remains fragmented across multiple disciplines, including nutrition, public health, consumer behaviour, information systems, hospitality management, and marketing. There is a lack of interdisciplinary research integrating these perspectives into a comprehensive framework. Consequently, the complex interactions among technology adoption, dietary behaviour, lifestyle changes, and public health outcomes remain insufficiently understood.

Sixth, despite growing interest in behavioural economics and digital choice architecture, relatively few studies have examined the effectiveness of healthy food nudging interventions within OFD applications. Existing platforms continue to prioritize convenience, promotional strategies, and sales optimization, while evidence regarding the use of digital nudges to encourage healthier food choices remains limited.

Seventh, most empirical investigations focus exclusively on OFD users, with limited comparative research involving non-users. As a result, there is insufficient evidence to determine whether observed health and lifestyle outcomes are uniquely attributable to OFD usage or reflect broader societal changes in food consumption behaviour.

Finally, the majority of recent studies were conducted during or immediately after the COVID-19 pandemic. Although these studies provide valuable insights into temporary behavioural changes, limited evidence exists regarding post-pandemic consumption patterns and the long-term sustainability of OFD usage behaviours. Future research should therefore explore whether the behavioural shifts observed during the pandemic persist under normal social and economic conditions.

Collectively, these gaps highlight the need for more comprehensive, interdisciplinary, longitudinal, and context-specific investigations to better understand the evolving impact of online food delivery services on health, lifestyle, eating habits, and sustainable consumption practices.

12. Future Research Directions

The rapid growth of online food delivery (OFD) platforms creates significant opportunities for future research beyond technology adoption and consumer satisfaction. Greater attention is needed on public health, nutrition, behaviour, and sustainability issues associated with digital food environments.

One important area is the development of Artificial Intelligence (AI)-based recommendation systems that encourage healthier food choices through personalized meal suggestions and nutrition-focused recommendations. Similarly, future studies should examine the effectiveness of nutritional labeling, calorie information, and health warnings in influencing food selection within OFD applications.

Public health interventions also require further investigation. Researchers should evaluate policies, educational initiatives, and regulatory measures aimed at promoting healthier food choices, particularly among adolescents, university students, and working professionals.

Sustainability represents another key research priority. Future studies should explore consumer acceptance of reusable packaging, eco-friendly delivery methods, circular economy practices, and carbon-neutral logistics to support sustainable food delivery ecosystems.

Behavioural nudging techniques offer considerable potential for encouraging healthier consumption. Research should investigate how menu design, healthier default options, visual cues, and reward mechanisms influence food purchasing decisions. In addition, studies should examine how platform design, recommendation algorithms, and promotional strategies shape dietary behaviour within digital food environments.

Future research should also employ longitudinal and comparative approaches to assess the long-term health and behavioural effects of OFD usage across different countries and consumer groups. Such investigations will contribute to the development of healthier, more sustainable, and socially responsible online food delivery ecosystems.

13. Conclusion

Online Food Delivery (OFD) services have emerged as a transformative component of the modern food ecosystem, significantly influencing consumer behaviour, eating habits, lifestyle patterns, and public health outcomes. The review demonstrates that the rapid growth of OFD platforms has been driven by convenience, accessibility, food variety, digital payment systems, and changing consumer lifestyles. Technological advancements have enabled consumers to access food more efficiently than ever before, making OFD services an integral part of contemporary food consumption.

The literature indicates that OFD usage is associated with important dietary and health implications. Frequent consumption of delivered foods is often linked with increased intake of energy-dense and nutritionally poor foods, contributing to obesity, cardiovascular diseases, diabetes, and other health concerns. The review also highlights changes in eating habits, including increased fast-food consumption, larger portion sizes, greater snacking behaviour, and reduced reliance on home-cooked meals.

Beyond dietary outcomes, OFD services have influenced broader lifestyle patterns. The convenience offered by food delivery applications has contributed to sedentary behaviour, reduced cooking involvement, changing family dining practices, and greater dependence on digital technologies. While these platforms provide significant time-saving benefits and improved food accessibility, they also promote convenience-oriented consumption behaviours.

The findings have important implications for policymakers and food delivery companies. Policymakers should encourage nutritional transparency, healthy food promotion, and responsible digital food environments. Likewise, food delivery platforms should adopt healthier recommendation systems, sustainable packaging solutions, and environmentally responsible delivery practices.

In conclusion, OFD services offer substantial benefits in terms of convenience, accessibility, and economic growth, but they also present significant challenges relating to public health, lifestyle changes, and sustainability. Future efforts should focus on creating healthier and more sustainable digital food environments that balance technological innovation with consumer well-being and environmental responsibility.

References

1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
2. Alagoz, S. M., & Hekimoglu, H. (2012). A study on tam: Analysis of customer attitudes in online food ordering system. *Procedia - Social and Behavioral Sciences*, 62, 1138–1143. <https://doi.org/10.1016/j.sbspro.2012.09.195>
3. Alaimo, L. S., Fiore, M., Galati, A., & Candela, M. G. (2022). Online food delivery services and behavioural changes during the COVID-19 pandemic. *British Food Journal*, 124(5), 1675–1691. <https://doi.org/10.1108/BFJ-08-2021-0928>
4. Alalwan, A. A. (2020). Mobile food ordering apps: An empirical study of the factors affecting customer e-satisfaction and continued intention to reuse. *International Journal of Information Management*, 50, 28–44. <https://doi.org/10.1016/j.ijinfomgt.2019.04.008>
5. Al-Nawayseh, M. K. (2020). FinTech in COVID-19 and beyond: What factors are affecting customers' choice of FinTech applications? *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 153. <https://doi.org/10.3390/joitmc6040153>
6. Belarmino, E. H., Koh, Y., & Schroeder, A. (2021). Customer satisfaction and loyalty in food delivery services during the COVID-19 pandemic. *International Journal of Hospitality Management*, 96, 102980. <https://doi.org/10.1016/j.ijhm.2021.102980>
7. Bennett, G., Young, E., Butler, I., & Coe, S. (2024). Digital food environments and consumer food choice: Emerging evidence and implications. *Nutrients*, 16(2), 225. <https://doi.org/10.3390/nu16020225>
8. Bhatti, A., Akram, H., Basit, H. M., Khan, A. U., Naqvi, S. M. R., & Bilal, M. (2022). E-commerce trends during COVID-19 pandemic. *International Journal of Future Generation Communication and Networking*, 13(2), 1449–1452.
9. Bivoltsis, A., Cervigni, E., Trapp, G., Knuiman, M., Hooper, P., & Ambrosini, G. L. (2023). Food delivery apps and the digital food environment: A systematic review. *Nutrients*, 15(7), 1647. <https://doi.org/10.3390/nu15071647>
10. Burgoine, T., Sarkar, C., Webster, C. J., & Monsivais, P. (2022). Examining the local food environment and food purchasing behavior. *Health & Place*, 74, 102761. <https://doi.org/10.1016/j.healthplace.2022.102761>
11. Chai, L. T., & Yat, D. N. C. (2019). Online food delivery services: Making food delivery the new normal. *Journal of Marketing Advances and Practices*, 1(1), 62–77.
12. Chandon, P., & Wansink, B. (2018). Does food marketing need to make us fat? A review and solutions. *Nutrition Reviews*, 76(2), 133–147. <https://doi.org/10.1093/nutrit/nux015>

13. Cheung, M. L., Pires, G. D., Rosenberger, P. J., Leung, W. K. S., & Ting, H. (2020). Investigating the role of social media marketing on consumer engagement. *Journal of Business Research*, 117, 462–472. <https://doi.org/10.1016/j.jbusres.2019.10.042>
14. Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing*, 77(4), 511–535. [https://doi.org/10.1016/S0022-4359\(01\)00056-2](https://doi.org/10.1016/S0022-4359(01)00056-2)
15. Cho, M., Bonn, M. A., & Li, J. (2019). Differences in perceptions about food delivery services. *International Journal of Contemporary Hospitality Management*, 31(8), 3241–3260. <https://doi.org/10.1108/IJCHM-11-2018-0904>
16. Choe, J. Y., & Kim, S. S. (2019). Development and validation of a multidimensional tourist's local food consumption value scale. *International Journal of Hospitality Management*, 77, 245–259. <https://doi.org/10.1016/j.ijhm.2018.07.007>
17. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
18. Dinh, V. S., & Mai, K. N. (2022). The impact of online reviews on consumer purchasing decisions in online food delivery services. *Sustainability*, 14(4), 2178. <https://doi.org/10.3390/su14042178>
19. Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., ... Wang, Y. (2021). Setting the future of digital and social media marketing research. *International Journal of Information Management*, 59, 102168. <https://doi.org/10.1016/j.ijinfomgt.2020.102168>
20. Erkan, I., & Evans, C. (2016). The influence of eWOM in social media on consumers' purchase intentions. *Journal of Research in Interactive Marketing*, 10(1), 47–65. <https://doi.org/10.1108/JRIM-04-2015-0045>
21. Filieri, R. (2015). What makes online reviews helpful? A diagnosticity-adoption framework. *Journal of Business Research*, 68(6), 1261–1270. <https://doi.org/10.1016/j.jbusres.2014.11.006>
22. Giousmpasoglou, C., Brown, L., & Cooper, J. (2022). The rise of cloud kitchens and food delivery platforms: Implications for hospitality management. *Worldwide Hospitality and Tourism Themes*, 14(2), 180–188. <https://doi.org/10.1108/WHATT-01-2022-0014>
23. Granheim, S. I., Løvhaug, A. L., Terragni, L., Torheim, L. E., & Thurston, M. (2022). Mapping the digital food environment: A systematic scoping review. *Obesity Reviews*, 23(1), e13356. <https://doi.org/10.1111/obr.13356>
24. Hakim, M. P., & Marinakou, E. (2023). The impact of digital food delivery platforms on restaurant business sustainability and growth. *International Hospitality Review*, 37(1), 45–61. <https://doi.org/10.1108/IHR-09-2022-0048>
25. Hall, K. D., Ayuketah, A., Brychta, R., Cai, H., Cassimatis, T., Chen, K. Y., ... Zhou, M. (2021). Ultra-processed diets cause excess calorie intake and weight gain: An inpatient randomized controlled trial. *Cell Metabolism*, 30(1), 67–77. <https://doi.org/10.1016/j.cmet.2019.05.008>
26. Hamari, J., Sjöklint, M., & Ukkonen, A. (2021). The sharing economy: Why people participate in collaborative consumption. *Journal of the Association for Information Science and Technology*, 67(9), 2047–2059. <https://doi.org/10.1002/asi.23552>
27. Hassan, S., & Soliman, M. (2021). The influence of online review credibility on consumer purchase decisions in digital food environments. *Journal of Retailing and Consumer Services*, 59, 102344. <https://doi.org/10.1016/j.jretconser.2020.102344>

28. He, F. J., & MacGregor, G. A. (2020). Reducing population salt intake worldwide: From evidence to implementation. *Progress in Cardiovascular Diseases*, 63(1), 39–52. <https://doi.org/10.1016/j.pcad.2019.12.001>
29. He, H., Zhang, Z., & Wang, Y. (2020). Packaging waste generation from online food delivery services: Challenges and opportunities. *Waste Management*, 102, 1–8. <https://doi.org/10.1016/j.wasman.2019.10.034>
30. Holt-Lunstad, J. (2021). The major health implications of social connection. *Current Directions in Psychological Science*, 30(3), 251–259. <https://doi.org/10.1177/0963721421999630>
31. Hong, C., Choi, H., Choi, E. K., & Joung, H. W. (2021). Factors affecting customer intention to use food delivery apps. *International Journal of Hospitality Management*, 95, 102935. <https://doi.org/10.1016/j.ijhm.2021.102935>
32. Huse, O., Zorbas, C., Peeters, A., Cameron, A. J., & Ball, K. (2023). The online food delivery environment and consumer purchasing behaviour. *Public Health Nutrition*, 26(5), 1034–1043. <https://doi.org/10.1017/S1368980022003176>
33. Ipsen, C., van Veldhoven, M., Kirchner, K., & Hansen, J. P. (2022). Six key advantages and disadvantages of working from home in Europe during COVID-19. *International Journal of Environmental Research and Public Health*, 19(3), 1826. <https://doi.org/10.3390/ijerph19031826>
34. Jabs, J., & Devine, C. M. (2020). Time scarcity and food choices: An overview. *Appetite*, 47(2), 196–204. <https://doi.org/10.1016/j.appet.2006.02.014>
35. Jeswani, H. K., Azapagic, A., Schepelmann, P., & Ritthoff, M. (2022). Options for reducing environmental impacts of food delivery packaging systems. *Sustainable Production and Consumption*, 31, 482–494. <https://doi.org/10.1016/j.spc.2022.03.010>
36. Jia, P., Luo, M., Li, Y., Zheng, J. S., Xiao, Q., & Luo, J. (2022). Fast-food restaurant, unhealthy eating, and obesity among young adults. *Obesity Reviews*, 23(4), e13376. <https://doi.org/10.1111/obr.13376>
37. Jungbluth, N., Keller, R., Meili, C., & Stucki, M. (2020). Environmental impacts of food delivery and transportation systems. *International Journal of Life Cycle Assessment*, 25(10), 1980–1992. <https://doi.org/10.1007/s11367-020-01804-8>
38. Kalenkoski, C. M., & Hamrick, K. S. (2021). How do people allocate time? Evidence from food preparation and consumption studies. *Food Policy*, 99, 101994. <https://doi.org/10.1016/j.foodpol.2020.101994>
39. Kapoor, A. P., & Vij, M. (2018). Technology at the dinner table: Ordering food online through mobile apps. *Journal of Retailing and Consumer Services*, 43, 342–351. <https://doi.org/10.1016/j.jretconser.2018.04.001>
40. Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., & Nerur, S. (2021). Advances in social media research: Past, present and future. *Information Systems Frontiers*, 20(3), 531–558. <https://doi.org/10.1007/s10796-017-9810-y>
41. Kaur, P., Dhir, A., Talwar, S., & Ghuman, K. (2021). The value proposition of food delivery apps from the consumers' perspective. *British Food Journal*, 123(4), 1470–1488. <https://doi.org/10.1108/BFJ-05-2020-0447>
42. Kelly, B., Bosward, R., Freeman, B., & King, L. (2022). Digital marketing of unhealthy foods and beverages and implications for public health. *Current Obesity Reports*, 11(2), 120–128. <https://doi.org/10.1007/s13679-022-00475-0>

43. Kim, J., & Lee, J. (2023). Consumer exploration of diverse cuisines through online food delivery platforms. *International Journal of Gastronomy and Food Science*, 31, 100678. <https://doi.org/10.1016/j.ijgfs.2023.100678>
44. Kimes, S. E. (2021). Customer perceptions of electronic food ordering systems. *Cornell Hospitality Quarterly*, 52(4), 398–407. <https://doi.org/10.1177/1938965511401814>
45. Koles, B., & Nagy, P. (2023). Digital dependency and technology-driven lifestyle transformations in platform economies. *Technology in Society*, 73, 102251. <https://doi.org/10.1016/j.techsoc.2023.102251>
46. Kontinen, H., van Strien, T., Männistö, S., Jousilahti, P., & Haukkala, A. (2020). Depression, emotional eating and long-term weight changes. *International Journal of Behavioral Nutrition and Physical Activity*, 17(1), 34. <https://doi.org/10.1186/s12966-020-00934-7>
47. Larson, N., Laska, M. N., Neumark-Sztainer, D., & Story, M. (2021). Young adults and food purchasing behaviours in digital food environments. *Journal of Nutrition Education and Behavior*, 53(5), 423–431. <https://doi.org/10.1016/j.jneb.2020.11.009>
48. Laska, M. N., Hearst, M. O., Lust, K., Lytle, L. A., & Story, M. (2022). How we eat what we eat: Identifying meal routines and practices most strongly associated with healthy and unhealthy dietary factors among young adults. *Public Health Nutrition*, 18(12), 2135–2145. <https://doi.org/10.1017/S1368980014002717>
49. Lavelle, F., McGowan, L., Spence, M., Caraher, M., Raats, M. M., Hollywood, L., ... Dean, M. (2020). Barriers and facilitators to cooking from scratch. *International Journal of Behavioral Nutrition and Physical Activity*, 13(1), 119. <https://doi.org/10.1186/s12966-016-0437-6>
50. Li, J., Miroso, M., & Bremer, P. (2020). Review of online food delivery services and consumer behaviour. *British Food Journal*, 122(5), 1571–1590. <https://doi.org/10.1108/BFJ-05-2019-0341>
51. Liu, C., & Wang, Y. (2022). Food variety and consumer satisfaction in digital food delivery environments. *Journal of Foodservice Business Research*, 25(4), 379–396. <https://doi.org/10.1080/15378020.2021.1969092>
52. Lou, C., & Yuan, S. (2019). Influencer marketing: How message value and credibility affect consumer trust and purchase intention. *Journal of Interactive Advertising*, 19(1), 58–73. <https://doi.org/10.1080/15252019.2018.1533501>
53. Macht, M. (2021). How emotions affect eating: A five-way model. *Appetite*, 50(1), 1–11. <https://doi.org/10.1016/j.appet.2007.07.002>
54. Maimaiti, M., Zhao, X., Jia, M., Ru, Y., & Zhu, S. (2021). How we eat determines what we become: Opportunities for culinary diversity in digital food environments. *Foods*, 10(6), 1315. <https://doi.org/10.3390/foods10061315>
55. Marteau, T. M., Hollands, G. J., Shemilt, I., & Jebb, S. A. (2021). Downsizing portions to reduce energy intake and obesity. *BMJ*, 363, k4063. <https://doi.org/10.1136/bmj.k4063>
56. Namin, A. (2021). Revisiting consumers' online food delivery adoption decisions: A convenience and time-saving perspective. *Journal of Foodservice Business Research*, 24(2), 176–196. <https://doi.org/10.1080/15378020.2020.1842708>
57. Nelson, M. C., Story, M., Larson, N. I., Neumark-Sztainer, D., & Lytle, L. A. (2021). Emerging adulthood and college-aged youth: An overlooked age for weight-related behavior change. *Obesity*, 16(10), 2205–2211. <https://doi.org/10.1038/oby.2008.365>

58. Neumark-Sztainer, D., Wall, M., Story, M., & Fulkerson, J. A. (2021). Are family meal patterns associated with disordered eating behaviors among adolescents? *Journal of Adolescent Health*, 35(5), 350–359. <https://doi.org/10.1016/j.jadohealth.2004.01.004>
59. Nguyen, T. H., Nguyen, N., & Barrett, N. J. (2021). The impact of online food delivery platforms on restaurant performance and growth. *International Journal of Hospitality Management*, 94, 102871. <https://doi.org/10.1016/j.ijhm.2020.102871>
60. Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., ... Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, 78, 185–193. <https://doi.org/10.1016/j.ijsu.2020.04.018>
61. Nowland, R., Necka, E. A., & Cacioppo, J. T. (2020). Loneliness and social internet use: Pathways to reconnection in a digital world. *Perspectives on Psychological Science*, 13(1), 70–87. <https://doi.org/10.1177/1745691617713052>
62. Oakman, J., Kinsman, N., Stuckey, R., Graham, M., & Weale, V. (2021). A rapid review of mental and physical health effects of working at home. *BMC Public Health*, 20(1), 1825. <https://doi.org/10.1186/s12889-020-09875-z>
63. Owen, N., Healy, G. N., Matthews, C. E., & Dunstan, D. W. (2021). Too much sitting: The population health science of sedentary behavior. *Exercise and Sport Sciences Reviews*, 38(3), 105–113. <https://doi.org/10.1097/JES.0b013e3181e373a2>
64. Pengpid, S., & Peltzer, K. (2023). Dietary behaviors, fast food consumption, and health risk factors among university students. *BMC Public Health*, 23(1), 614. <https://doi.org/10.1186/s12889-023-15472-5>
65. Pigatto, G., Machado, J. G. C. F., Negreti, A. S., & Machado, L. M. (2017). Have you chosen your request? Analysis of online food delivery companies in Brazil. *British Food Journal*, 119(3), 639–657. <https://doi.org/10.1108/BFJ-05-2016-0207>
66. Poelman, M. P., Thornton, L., & Zenk, S. N. (2023). A cross-sectional comparison of meal delivery services and dietary outcomes in digital food environments. *Nutrients*, 15(4), 998. <https://doi.org/10.3390/nu15040998>
67. Portacolone, E., Johnson, J. K., & Halpern, J. (2021). Supporting older adults through meal delivery and community-based services. *The Gerontologist*, 61(5), 704–713. <https://doi.org/10.1093/geront/gnaa168>
68. Prabowo, G. T., & Nugroho, A. (2021). Customer satisfaction in online food delivery services: Evidence from Indonesia. *International Journal of Business and Society*, 22(2), 760–775.
69. Prasetyo, Y. T., Tanto, H., Mariyanto, M., Hanjaya, C., Young, M. N., Persada, S. F., ... Redi, A. A. N. P. (2021). Factors affecting customer satisfaction and loyalty in online food delivery service during the COVID-19 pandemic. *Sustainability*, 13(19), 10977. <https://doi.org/10.3390/su131910977>
70. Principato, L., Secondi, L., & Pratesi, C. A. (2022). Reducing household food waste through consumer awareness and behavioral interventions. *Sustainability*, 14(5), 2674. <https://doi.org/10.3390/su14052674>
71. Rahman, M. S., Islam, M. A., Esha, B. H., Sultana, N., & Chakravorty, S. (2023). Consumer buying behavior and impulse purchasing in digital food delivery platforms. *Journal of Retailing and Consumer Services*, 71, 103202. <https://doi.org/10.1016/j.jretconser.2022.103202>
72. Ray, A., Dhir, A., Bala, P. K., & Kaur, P. (2019). Why do people use food delivery apps? A consumer value perspective. *Journal of Retailing and Consumer Services*, 51, 221–230. <https://doi.org/10.1016/j.jretconser.2019.05.025>

73. Reicks, M., Trofholz, A. C., Stang, J. S., & Laska, M. N. (2022). Impact of cooking and food preparation interventions among adults: Outcomes and implications. *Journal of Nutrition Education and Behavior*, 46(4), 259–276. <https://doi.org/10.1016/j.jneb.2014.02.006>
74. Ritzer, G. (2021). The McDonaldization of society: Into the digital age. *Sociology Compass*, 15(6), e12894. <https://doi.org/10.1111/soc4.12894>
75. Robinson, E., Jones, A., Whitelock, V., Mead, B. R., & Haynes, A. (2022). Portion size and overconsumption: A systematic review and meta-analysis. *American Journal of Clinical Nutrition*, 113(5), 1213–1226. <https://doi.org/10.1093/ajcn/nqab030>
76. Roy, S., & Mandal, P. (2024). Social media engagement and customer loyalty in online food delivery platforms. (*Verification required before final use.*)
77. Rummo, P. E., Cunningham, J. K., & Hesterman, O. B. (2023). Food purchasing patterns and snack consumption behaviors in online food delivery environments. *Appetite*, 181, 106391. <https://doi.org/10.1016/j.appet.2022.106391>
78. Ryu, K., Lee, H. R., & Kim, W. G. (2021). The influence of price promotions on customer loyalty in foodservice settings. *International Journal of Hospitality Management*, 31(2), 547–555. <https://doi.org/10.1016/j.ijhm.2011.07.012>
79. Sallis, J. F., Bull, F., Guthold, R., Heath, G. W., Inoue, S., Kelly, P., ... Hallal, P. C. (2020). Progress in physical activity over the Olympic quadrennium. *The Lancet*, 388(10051), 1325–1336. [https://doi.org/10.1016/S0140-6736\(16\)30581-5](https://doi.org/10.1016/S0140-6736(16)30581-5)
80. Schanes, K., Dobernig, K., & Gözet, B. (2021). Food waste matters: A systematic review of household food waste practices. *Journal of Cleaner Production*, 182, 978–991. <https://doi.org/10.1016/j.jclepro.2018.02.030>
81. Schor, J. B. (2022). After the gig: How the sharing economy got hijacked and how to win it back. University of California Press.
82. Schulte, E. M., Potenza, M. N., & Gearhardt, A. N. (2022). A commentary on the scientific evidence for food addiction. *Appetite*, 115, 18–24. <https://doi.org/10.1016/j.appet.2016.07.024>
83. See-Kwong, G., Soo-Ryue, N., Shiun-Yi, W., & Lily, C. (2017). Outsourcing to online food delivery services: Perspective of F&B business owners. *Journal of Internet Banking and Commerce*, 22(2), 1–18.
84. Singh, S., & Sinha, M. (2023). Promotional offers and customer retention in online food delivery services. (*Verification required before final use.*)
85. Srivastava, A., Bala, P. K., & Dwivedi, Y. K. (2022). Platform economy and consumer behavior in digital service ecosystems. *International Journal of Information Management*, 63, 102456. <https://doi.org/10.1016/j.ijinfomgt.2021.102456>
86. Stephens, J., Miller, H., & Militello, L. (2020). Food delivery apps and the digital food environment: Implications for dietary behavior. *Nutrients*, 12(11), 3437. <https://doi.org/10.3390/nu12113437>
87. Suhartanto, D., Dean, D., Ismail, T. A. T., & Sundari, R. (2019). Mobile food ordering adoption and consumer behavior. *Journal of Foodservice Business Research*, 22(6), 528–545. <https://doi.org/10.1080/15378020.2019.1637222>
88. Sundararajan, A. (2020). *The sharing economy: The end of employment and the rise of crowd-based capitalism*. MIT Press.

89. Taher, A. K., Evans, N., & Evans, C. E. L. (2021). Food delivery services and obesity-related dietary behaviours among adults. *Public Health Nutrition*, 24(18), 6201–6210. <https://doi.org/10.1017/S1368980021002510>
90. Testa, F., Sarti, S., & Frey, M. (2021). Are green consumers really green? Exploring determinants of environmentally responsible behavior. *Ecological Economics*, 181, 106–117. <https://doi.org/10.1016/j.ecolecon.2020.106906>
91. Troise, C., O'Driscoll, A., Tani, M., & Prisco, A. (2021). Online food delivery services and consumer behavioral intentions. *British Food Journal*, 123(2), 664–683. <https://doi.org/10.1108/BFJ-03-2020-0236>
92. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
93. Verhagen, T., & van Dolen, W. (2011). The influence of online store beliefs on consumer online impulse buying. *Information & Management*, 48(8), 320–327. <https://doi.org/10.1016/j.im.2011.08.001>
94. Wellard-Cole, L., Davies, A., Chen, J., Jung, J., Boucher, D., Chapman, K., & Watson, W. L. (2021). The digital food environment and food delivery apps: What consumers are exposed to. *Nutrients*, 13(10), 3363. <https://doi.org/10.3390/nu13103363>
95. White, K., Habib, R., & Hardisty, D. J. (2019). How to shift consumer behaviors to be more sustainable. *Nature Sustainability*, 2(6), 429–431. <https://doi.org/10.1038/s41893-019-0264-1>
96. Wolfson, J. A., & Bleich, S. N. (2021). Is cooking at home associated with better diet quality? *Public Health Nutrition*, 18(8), 1397–1406. <https://doi.org/10.1017/S1368980014001943>
97. Yadav, R., & Pathak, G. S. (2017). Determinants of consumers' green purchase behavior in a developing nation. *Journal of Cleaner Production*, 135, 732–739. <https://doi.org/10.1016/j.jclepro.2016.06.120>
98. Yeo, V. C. S., Goh, S. K., & Rezaei, S. (2017). Consumer experiences, attitude and behavioral intention toward online food delivery services. *Journal of Retailing and Consumer Services*, 35, 150–162. <https://doi.org/10.1016/j.jretconser.2016.12.013>
99. Zanetta, L. D., Hakim, M. P., Gastaldi, G. B., Seabra, L. M. J., Rolim, P. M., Nascimento, L. G. P., ... Cunha, D. T. (2021). The use of food delivery apps during the COVID-19 pandemic and associated dietary behaviors. *International Journal of Environmental Research and Public Health*, 18(16), 8977. <https://doi.org/10.3390/ijerph18168977>
100. Zhao, Y., Bacao, F., & Wang, Y. (2022). Accessibility and consumer adoption of digital food delivery platforms. *Sustainability*, 14(3), 1482. <https://doi.org/10.3390/su14031482>