International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Study on Adopting Multi-Dimensional Sustainability Approach as CSR Efforts by the Food Delivery Platforms

Bageshree P. Bangera Bandekar[1], Geeta Bhatia[2]

[1]Research Guide, Associate Professor, C. L. Valia College, D.N. Nagar, Andheri (W)
[2]Research Scholar, D.T.S.S College, Malad

Abstract

During the global Covid-19 pandemic in 2020, the benefits of online food delivery were evident, as it enhanced customer access to cooked meals and allowed food providers to maintain operations. In the digital age, food delivery systems enjoy widespread popularity globally. Achieving sustainable operations for food delivery enterprises poses a significant challenge. This paper conducts a systematic literature review to address the absence of a unified perspective on sustainable operations for food delivery platforms and to emphasize recent advancements in this critical field, alongside an examination of practical applications. This article seeks to examine how food delivery platforms might improve their corporate social responsibility initiatives through a multi-dimensional sustainability framework. From an economic perspective, although internet meal delivery generates employment and sales prospects, it has faced criticism for imposing exorbitant commissions on restaurants and for the dubious working conditions of delivery personnel. From a societal standpoint, internet meal delivery impacts the connection between consumers and their food, while also affecting public health outcomes and transportation systems. Environmental consequences encompass substantial trash generation and elevated carbon footprints. Going forward, stakeholders must evaluate strategies to alleviate adverse effects and enhance beneficial outcomes of online meal delivery to guarantee its sustainability in all aspects.

This study initially reviews pertinent literature and subsequently applies the triple bottom line framework to categorize previous research into a multi-dimensional sustainability approach encompassing economic, social, and environmental sustainability. The aim is to comprehend how this multi-dimensional approach can facilitate sustainable operations for food delivery businesses and enhance the social responsibility (CSR) efforts of food delivery platforms.

Keywords: Food delivery platforms, multi-dimensional sustainability, economic sustainability, social sustainability, environmental sustainability, Corporate Social Responsibility [CSR]

1. Introduction

The global rise of e-commerce is propelled by economic growth and rising internet penetration. As disposable income rises, consumers are progressively utilizing online services due to enhanced trust in electronic payments and the expansion of supplier options and delivery networks. The global proliferation of online food delivery has transformed the interactions between customers and food producers, while the

implications for sustainability—encompassing economic, social, and environmental dimensions—remain inadequately evaluated.

Pandey et al. (2022) divide food delivery systems into two types: (i) restaurant-operated and (ii) third-party-operated platforms. In the latter case, restaurants establish a collaboration with third-party food delivery platforms that offer delivery services to clients (Preetha and Iswarya, 2019). In these operations, a consumer initially submits an order via a third-party food delivery platform (e.g., website or application), after which the order information are transmitted to the relevant restaurants. Subsequently, the third-party food delivery platform will deploy workers (i.e., riders) to retrieve the food from the restaurants and bring it to the consumer. The revenue of third-party food delivery services is derived from both restaurants and customers, encompassing five primary sources (Ahuja et al., 2021). Restaurants are obligated to pay the commission fees. The third-party food delivery platform reportedly levies a commission fee of approximately 20 to 25 percent on orders from exclusive restaurants, 30 to 35 percent on orders from non-exclusive restaurants, and 3 to 8 percent on customer self-pickup orders (Leung, 2022). Additionally, restaurants seeking to advertise their brands via the platform (e.g., website or app) will incur charges for these promotional services. Conversely, customers must remit the shipping and service expenses. The delivery rates are contingent upon the distance and duration of travel between the restaurants and the clients. In addition to delivery, the third-party food delivery platform offers additional services, including 24/7 ordering, pre-ordering, and user ratings of restaurants (Lichtenstein, 2020), which are considered service costs. Ultimately, clients can provide gratuities to the riders, perhaps reducing the operational expenses of the meal delivery platform for employee retention. Various meal delivery platforms, such as Doordash and Uber Eats, impose distinct cost structures on both restaurants and customers (Lichtenstein, 2020). A typical third-party food delivery system encompasses the involvement of restaurants, third-party delivery platforms, riders, and end-customers, all interconnected by digital technologies, with operations guided by big data analytics (Bozkaya et al., 2022).

This pertains to revenue creation; however, alongside economic performance, social and environmental sustainability factors are also essential in developing a sustainable economy (Song et al., 2022). Approximately 45% of the materials disposed of in U.S. landfills are food waste and food packaging, and carbon emissions from meal delivery services are projected to rise by 32% by 2022 (Joselow, 2020). Moreover, over fifty percent of delivery riders experienced work-related injuries, and sixty percent said that they did not get compensation following these accidents (Young, 2021). For enduring success, food delivery companies must promote economic, social, and environmental sustainability to enhance customers' immediate value and the long-term welfare of all stakeholders (Barthel & Ivanaj, 2007; Crane & Desmond, 2002).

Theoretically, the triple bottom line (TBL) concept posits that businesses should adhere to economic, social, and environmental duties. Utilizing the TBL framework enables organizations to enhance their financial performance, fulfill stakeholder expectations, and cultivate competitive advantages that distinguish them from rivals in a dynamic market (Schulz & Flanigan, 2016). Consequently, this study use the TBL framework to elucidate previous research in each sustainability dimension, so offering a foundation for formulating the future research agenda for food delivery operations.

1.1 Market Size of Food delivery sector

The food delivery sector has undergone significant expansion in the past decade, as consumers progressively transition to online platforms. This transformation in consumer shopping behavior has been influenced by various variables, some specific to certain markets or countries, while others arise from

global shifts. The changes encompass: a rise in disposable income, especially in developing countries; extended work and commuting durations; enhanced broadband accessibility and heightened security of electronic transactions; a reduction in trade barriers; a proliferation of retailers establishing an online presence; and an augmented consumer awareness of e-commerce.

Food delivery services can be classified as either Restaurant-to-Consumer Delivery or Platform-to-Consumer Delivery operations. Restaurant-to-Consumer Delivery services prepare and distribute food, exemplified by companies such as KFC, McDonald's, and Domino's. The order may be placed directly through the restaurant's online platform or through a third-party service. These third-party platforms differ by nation, including examples such as Uber Eats in the United States, Eleme in China, Just Eat in the United Kingdom, and Swiggy in India. Food delivery platforms offer online delivery services from partner restaurants that may not have their own delivery services, a practice known as Platform-to-Consumer Delivery.

2. Methodology

An in-depth and interdisciplinary analysis of recent literature was necessary to comprehend the economic, social, and environmental sustainability consequences of food delivery platforms. Over 60 documents were located regarding the impacts of online meal delivery, utilizing the following research databases: Scopus, Web of Science, Google Scholar, and articles from other peer-reviewed journals.

Significantly, the study review encompassed not just journal articles but also books, book chapters, government policies, reports, working papers, and several other grey literature sources. Thus, a more exploratory methodology was employed to identify subjects meriting additional investigation and aimed to highlight these to stimulate future research.

3. Review of Literature

This section reviews relevant research articles based on the multi-dimensional approach, specifically focusing on economic, social, and environmental sustainability as a CSR effort of food delivering platforms. Høgevold et al. (2018) asserted that an organization must consistently engage in economic development while simultaneously addressing social and environmental concerns. The rise of food delivery services is attributed to the coronavirus pandemic, necessitating a thorough evaluation of their sustainable development to ensure third-party food delivery companies optimize positive effects while mitigating negative consequences (Li et al., 2020). We categorize the pertinent articles into economic sustainability, social sustainability, environmental sustainability, and multi-dimensional sustainability for examination.

In practical applications, businesses typically engage with many sustainability dimensions based on stakeholder involvement, expectations (Fischer et al., 2020), and their objectives.

Wang (2022) and Chen et al. (2022) examined the economic and social sustainability performances in food delivery operations. Wang (2022) analysed the optimal operational strategy of the food delivery platform by taking into account bounded rationality and the anticipated advantages for supply chain participants, including restaurants, the food delivery platform, and customers. The author demonstrated that food delivery platforms ought to impose significant penalties on restaurants that contravene laws. Furthermore, the food delivery platform ought to implement the supervision strategy if the overall supervision expenses are less than the detrimental societal assessments associated with the non-supervision method.

Chen et al. (2022) conducted an analytical examination of the benefits of partnering with an online meal delivery platform from the restaurant's viewpoint within the framework of a revenue-sharing contract and explored methods for attaining supply chain coordination. They demonstrated that partnering with the online meal delivery platform does not inherently enhance the restaurant's demand. Adopting a revenue-sharing contract with a price ceiling or a bilateral revenue-sharing arrangement will benefit both the platform and the restaurant. In the absence of coordinated supply chain management, the platform can enhance its profitability and social welfare by optimizing the management of its rider count.

Niu et al. (2021) initially assessed the optimal pricing mechanism within the context of the platform's delivery strategy and the restaurant's self-delivery strategy, subsequently analyzing their effects on the restaurant's financial performance and the environmental sustainability of the supply chain. The authors discovered that restaurants favor implementing the platform's delivery technique during periods of low market demand. Moreover, the platform's delivery technique is more environmentally sustainable than the restaurant's self-delivery approach at periods of elevated market demand. Furthermore, Chen and Lee (2022) elucidated the influence of a meal delivery platform's environmental performance on customer behavior. Statistical analysis revealed that green brand legitimacy and perceived biosphere value orientation significantly enhance customer trust in the food delivery platform, thus fostering favorable consumer behavior towards the environmentally friendly service.

Finally, Moncef and Dupuy (2021) as well as Sinha and Pandit (2021) examined both social and environmental sustainability performances in food delivery operations. Moncef and Dupuy (2021) examined the contradictory conflicts encountered by several sharing economy models in logistics management. They determined that food delivery platforms ought to allocate additional resources to reduce carbon dioxide emissions throughout the delivery process. Furthermore, they ought to enhance working conditions and implement superior policies and support for the riders. Sinha and Pandit (2021) quantified the environmental pollution produced by food delivery and the riders' workload. Simulating 2100 customer food orders revealed that around 163 grams of carbon dioxide is emitted every order delivery, with each rider managing orders and experiencing an idle time of roughly 59.2%.

The literature addressing the combined economic, environmental, and social sustainability concerns in food delivery businesses is scarce. Seghezzi et al. (2021) performed a literature analysis on on-demand food delivery to delineate the roles of each participant and examine the value-adding activities inside food delivery operations. Furthermore, the authors performed interviews with practitioners to identify the inadequately examined study domains. In summary, they demonstrated that operational tasks, such as food preparation, and the advantages of restaurants necessitate a comprehensive investigation, as the existing literature on these topics is inadequate.

Economic sustainability pertains to an organization's financial performance necessary for its survival (Jawahar et al., 2017). In this study, economic sustainability pertains to the financial performance of food delivery systems and restaurants. The current literature on economic sustainability in food delivery companies has examined consumer habits and numerous operational issues.

Food delivery operations are facilitated by applications, and pertinent articles examine consumer behavior about the use of these food delivery apps. Kapoor and Vij (2018) conducted a statistical analysis on the impact of mobile app qualities on user intention to utilize online meal ordering services. The researchers determined that the collaborative design features of mobile applications, including promotional and discount opportunities, exert the most significant influence on the adoption of online food ordering services, succeeded by information design, navigational design, and visual design.

Kaur et al. (2021) elucidated the advantages of enhancing the use of food-delivery applications. They demonstrated that visibility significantly influences the intention to use food delivery applications, followed by affordances, value for money, and social prestige benefits. Nonetheless, food safety and health problems are not substantially correlated with the intention to use the applications.

Yeo et al. (2021) conducted a statistical analysis of the factors influencing customers repurchase intentions regarding food delivery applications. Perceived utility, social influence, and trust are identified as the determinants of repurchase intention for food delivery applications. Nonetheless, effort anticipation, information quality, and perceived hazards do not exhibit a substantial correlation with repurchase intention. Raza et al. (2022) conducted a statistical analysis of the trust transfer from online food delivery applications to restaurants and its correlation with the intention to reuse the applications. They demonstrated that trust disposition and online ratings influence customer trust in food delivery applications, ultimately fostering a favorable impact on customers' trust in both the restaurants and the intention to reuse the applications. The perceived efficacy of conflict resolution serves as a moderator between trust in an application and trust in a restaurant.

Several studies have analysed the brand equity of meal delivery services and assessed client selection preferences. Ahn and Kwon (2021) found that perceived economic interchange, social exchange, and similar interests with food delivery apps positively correlate with the equity of the food delivery brand, which in turn fosters favorable behavior towards the platform's brand. Tsai et al. (2022) identified performance expectancy, effort expectancy, and security as the determinants influencing the selection of food delivery applications.

The operational decisions of food delivery platforms will influence their profitability, making quantification essential.

Seghezzi and Mangiaracina (2020) analysed the financial performance of last-mile deliveries in the on-demand food delivery sector. A methodology was developed to assess the profitability of the food delivery platform. The sensitivity studies indicated the existence of a fixed delivery price threshold that can render the food delivery platform business successful, irrespective of daily demand fluctuations. Moreover, elevated demand does not inherently enhance the profitability of the food delivery platform, since it may escalate delivery costs with an increase in the number of locations.

Sun et al. (2022) and Bai and Tang (2022) have developed analytical models to examine the effects of pricing and lead-time competition in food delivery platform operations on profitability. Sun et al. (2022) discovered that engaging in one-dimensional competition, whether through pricing or lead-time, adversely affects the profitability of food delivery platforms. In a scenario of concurrent price and lead-time competition, the platform will benefit more if the intensities of these contests vary. In addition to competing on price and lead time, Bai and Tang (2022) noted that platforms can provide better pay to entice more riders to participate. They demonstrated that solely one platform can yield a "payoff dominant stable equilibrium" that will capture all the benefits.

Feldman et al. (2022) examined a congested service system within the restaurant sector and conducted an analytical assessment of supply chain performance under a prevalent simple revenue-sharing contract involving one restaurant and a third-party delivery platform. They determined that a basic revenue-sharing contract is ineffective for coordinating the supply chain and adversely affects the restaurant's profitability. A well-structured generalized revenue-sharing contract, comprising shared revenue and fixed fee allocation, can facilitate supply chain coordination.

Social sustainability pertains to the advantages and well-being of the community (Hess et al., 2022). The food delivery operations necessitate client participation in the ordering process and demand riders to deliver promptly. Consequently, the well-being of both clients and riders is essential for social sustainability.

Gregory and Sadowski (2021) discovered that riders must engage in self-investment to be "fit for work" and exchange autonomy for algorithmic dispatch. Algorithmic management and temporal control are the frameworks implemented by the food delivery platform on the riders (Heiland, 2021). Shanahan and Smith (2021) emphasized that the food delivery platform employs unilateral alterations of exchange conditions, communication and technological frameworks, as well as neoliberalism and tribalism, to compel riders to accept employment responsibilities.

Goods et al. (2019) proposed that to gain a comprehensive understanding of job quality, working conditions, and safety for riders, it is essential for workers to consider individual situations, employment opportunities, and socio-political factors. Furunes and Mkono (2019) discovered that riders encounter both advantageous and disadvantageous employment experiences. The adverse job experiences of the riders primarily stem from their remuneration and the difficulties in interacting with restaurants, employers, and clients.

Le Breton and Galiere (2022) noted that motorcyclists depend on online peer discussion groups for information exchange, harmonization, and development within the social learning process. Sun et al. (2021) determined that riders must adhere to a fixed timetable, a de-flexibilization resulting from labor management strategies, technology-driven operations, and the cultural normalizing of platform dependency.

Piasna and Drahokoupil (2021) indicated that riders are inclined to work on a regular schedule and choose self-employment. Additionally, riders will determine their employment status and work schedule based on the autonomy degree, job market susceptibility, and economic affiliation of the food delivery platform.

The safety of the riders must be prioritized. Zheng et al. (2022a, 2022b) discovered that the volume of delivery orders and the incidence of riders' occupational injuries exhibit an inverted U-shaped relationship, with work pressure serving as a mediating factor in this correlation. The government can enhance the welfare of riders by mitigating occupational injuries and traffic accidents within the food delivery system. Fan et al. (2022) shown analytically that spot checks and information dissemination procedures effectively mitigate traffic violations among riders. Nevertheless, the spot check approach would result in increased penalties for late deliveries on the food delivery platform.

The elevated road safety hazards faced by delivery drivers on platforms stem from significant time constraints and insufficient protection (UCL 2022). Recent research suggests that employer-imposed time pressure (e.g., from food delivery platforms) heightens the probability of drivers participating in perilous driving behaviors, such as exceeding speed limits or disregarding traffic signals (Hauben et al. 2020, Christie and Ward 2023). Platform drivers may incur fines or have a disadvantage in future order assignments owing to tardy deliveries. Conversely, platform drivers generally possess fewer safety safeguards compared to employees, as demonstrated by their absence of access to employment injury insurance (ILO 2021). This is mostly attributable to the classification of these delivery drivers as self-employed by the platforms (WBG 2023).

Alongside platforms voluntarily implementing CSR programs, regulatory bodies in many countries have commenced actions to protect the safety and interests of platform drivers. Chinese regulatory authorities require platforms to extend the same benefits, including group insurance, to independent delivery drivers

as those provided to employees (MOHRSS 2021). The mandatory insurance policy (MIP) for delivery drivers has been instituted in seven major cities in China to specifically reduce the risk of losses for drivers. Furthermore, the "Spanish National Driver Law" requires food delivery platforms to offer drivers social insurance coverage (ILO 2021). Although insurance is commonly employed as a risk management instrument for drivers, its actual efficacy in mitigating driver hazards and its relationship with platform CSR efforts has not been well examined in the current research.

Environmental sustainability emphasizes the reduction of adverse environmental impacts, including the minimization of carbon emissions, trash recycling, and the utilization of renewable energy sources. Although it is a significant topic of study, we noted a scarcity of articles addressing environmental sustainability in food delivery operations. Liu et al. (2020) investigated the issue of packaging waste produced by food delivery services and assessed its environmental consequences. Utilizing big data mining, their analysis demonstrated that plastic bags are the primary contributors to food packaging waste in meal delivery services, while paper boxes are the most detrimental to the environment for carbon dioxide emissions during manufacture. The distribution of pollution is positively correlated with the distribution of meal delivery service providers.

4. Discussion

After studying the pertinent literature, it has been discovered that three research areas are insufficiently addressed in the domain of food delivery operations.

Initially, there is little examination of the restaurant's preferences and choices within the third-party meal delivery system. According to the economic sustainability literature, Jia et al. (2022) is the sole study that investigated a restaurant's decision to engage with a third-party food delivery platform. The quantity of partner restaurants on a meal delivery platform may influence the customer's motivation to utilize delivery services, hence impacting the platform's profitability. Understanding the preferences, concerns, and decisions of restaurants is essential, as these factors will influence the success of a third-party meal delivery platform.

The comprehension of environmental performance within the literature on food delivery systems is inadequate. The effects of food packing and waste in the meal delivery service were only examined in Liu et al. (2020). The food delivery platforms have implemented many environmentally sustainable initiatives to mitigate carbon emissions and pollutants. Nonetheless, research concerning the operational green practices of food delivery platforms and client attitudes and behaviors towards these practices remains insufficiently examined.

The research on multi-dimensional sustainability in food delivery systems is notably scarce. Every dimension in TBL is interconnected. The delivery strategy of food delivery operations influences environmental sustainability performance (Niu et al., 2021), while an appropriately designed supply chain contract between the restaurant and food delivery platform impacts the platform's profitability and social welfare (Chen et al., 2022).

It is imperative to evaluate the advantages of supply chain participants, environmental effects, and the financial performance of the food delivery platform for its sustainable growth and development.

5. Recommendation

The multi-dimensional approach with respect to economic sustainability, environmental sustainability, social sustainability will be a promising prospect for the food delivery platform to augment their CSR

efforts and to excel their brand image in the eyes of society. The exchange of information is essential for attaining sustainable operations (Zhang et al., 2018). The advent of disruptive technologies in Industry 4.0, including blockchain (Luo & Choi, 2022), the Internet of Things (IoT), and robotics (Sheu & Choi, 2022), will impact current food delivery operations, enhance information sharing among stakeholders, and promote innovative business models (Akter et al., 2022). Uber Eats has employed robots to facilitate driverless autonomous delivery and order tracking services for end customers in the United States. Such services are considered time and cost-efficient, as end-customers can receive their meals more promptly and avoid gratuities paid to the delivery personnel. From Uber Eats' perspective, driverless delivery diminishes the necessity for riders and is more environmentally sustainable than conventional car delivery. Nonetheless, it will necessitate personnel to oversee the operations and an increased degree of consumer participation, as the robot is incapable of entering an apartment. Given that this is a novel service, it is advantageous to assess the perceived value, experience, and preferences of end customers about driverless autonomous delivery in the future. Furthermore, it is essential to conduct an analytical examination of the advantages of autonomous distribution in food delivery operations by contrasting it with traditional methods regarding profitability, consumer utility, and environmental performance.

Blockchain technology is another disruptive innovation utilized in food delivery operations (Choi & Shi, 2022). Blockchain technology is considered a decentralized digital ledger that enhances information transparency, guarantees food safety and cleanliness, and facilitates expedited and secure payments (Choi et al., 2022a, 2022b). Moreover, utilizing blockchain technology allows clients to obtain trustworthy and dependable information regarding food quality and restaurant ratings, while also benefiting from customer incentives programs facilitated by blockchain-supported smart contracts.

The successful implementation of blockchain technology in food delivery operations necessitates support from both end-customers and eateries, along with investment from the food delivery platform. Therefore, it is essential to ascertain the factors influencing the adoption of blockchain technology in food delivery operations from the perspectives of both end-customers and restaurants, and subsequently comprehend the type of support that should be offered by the food delivery platform. Conversely, one can contemplate depicting this business model and examining the effects of employing smart contracts to facilitate the valuing of user feedback and incentives programs.

6. Conclusion

In conclusion, food delivery platforms are undergoing rapid development, particularly during the coronavirus epidemic. To ensure sustainable development in the food delivery sector, it is essential to meet customers' immediate needs while also addressing the long-term interests of all stakeholders. This study initially does a thorough literature review to ascertain methods for attaining a multi-dimensional sustainable approach to third-party food delivery. Subsequently, it underscores the latest advancements in this significant domain through the examination of practical applications.

This study reviews pertinent literature and subsequently employs the triple bottom line (TBL) framework to categorize previous research into a multi-dimensional approach concerning economic, environmental, and social sustainability. Three significant study gaps were identified: insufficient exploration of restaurant preferences and decision-making, inadequate comprehension of environmental performance, and limited analysis of multi-dimensional sustainability in food delivery operations.

To ensure sustainable operations in food delivery, firms must implement a multi-faceted strategy that integrates economic, social, and environmental sustainability within their Corporate Social Responsibility

(CSR) framework. The meal delivery platform must comprehend the customer's behaviors and preferences regarding the use of the service. Furthermore, it must meticulously determine the ideal operational tactics (including routing, pricing, and delivery methods), evaluate the influence of market rivalry, and examine the operational repercussions of food distribution on the environment. Furthermore, it is essential to address the rewards, engagement, and safety concerns of workers (i.e., riders), together with a collaborative framework with restaurants, to ensure the long-term viability of food delivery enterprises. Finally, governmental regulations will influence the operations of food delivery services and the economic viability of the entire food delivery system. The New South Wales government has enacted legislation to enhance safety for riders, mandating the provision of training and personal protective equipment (PPE).
The food distribution platform must achieve a balance between economic sustainability and environmental sustainability. Regarding social sustainability, it has been observed that clients may encounter service inconsistency between the restaurant and the meal delivery platform (Furunes & Mkono, 2019), which will impact consumer utility. In this instance, both the restaurant and the food delivery platform should pursue a system to enhance the situation and assess the advantages. Thus, the all-round multi-dimensional approach encompassing economic, environmental and social sustainability is proved to be a worthy choice for food delivery platforms as their progressive CSR initiative.

References:

1. Ahn, J., & Kwon, J. (2021). Examining the relative influence of multidimensional customer service relationships in the food delivery application context. International Journal of Contemporary Hospitality Management, 33(3), 912–928.
2. Ahuja, K., Chandra, V., Lord, V., & Peens, C. (2021). Ordering in: The rapid evolution of food delivery. McKinsey & Company, https://www.mckinsey.com/industries/technology- media-and-telecommunications/our-insights/ordering-in-the-rapid-evolution-of-food-delivery.
3. Akter, S., Michael, K., Uddin, M. R., McCarthy, G., & Rahman, M. (2022). Transforming business using digital innovations: The application of AI, blockchain, cloud and data analytics. Annals of Operations Research, 308, 7–39.
4. Bai, J., & Tang, C. S. (2022). Can two competing on-demand service platforms be profitable? International Journal of Production Economics, 250, 108672.
5. Barthel, P., & Ivanaj, V. (2007). Is sustainable development in multinational enterprises a marketing issue? Multinational Business Review, 15(1), 67–88.
6. Bozkaya, E., Eriskin, L., & Karatas, M. (2022). Data analytics during pandemics: A transportation and location planning perspective. Annals of Operations Research. https://doi.org/10.1007/s10479-022-04884-0
7. Butler, S. (2022). Delivery driver drops food off at wrong house then tells customer to fetch it himself. Indy100. https://www.indy100.com/viral/delivery-driver-food-wrong-house.
8. Chen, M., Hu, M., & Wang, J. (2022). Food delivery service and restaurant: Friend or foe? Management Science, Published Online, https://doi.org/10.1287/mnsc.2021.4245
9. Chen, X., & Lee, T. J. (2022). Potential effects of green brand legitimacy and the biospheric value of eco- friendly behavior on online food delivery: A mediation approach. International Journal of Contemporary Hospitality Management. https://doi.org/10.1108/IJCHM-07-2021-0892
10. Choi, T. M. (2022a). Achieving economic sustainability: Operations research for risk analysis and optimization problems in the blockchain era. Annals of Operations Research.

https://doi.org/10.1007/s10479-021- 04394-5
11. Choi, T. M., Zhang, J., & Cheng, T. C. E. (2018). Quick response in supply chains with stochastically risk sensitive retailers. Decision Sciences, 49(5), 932–957.
12. Crane, A., & Desmond, J. (2002). Societal marketing and morality. European Journal of Marketing, 36(5/6), 548–569.
13. Fan, B., Lv, L., & Han, G. (2022). Online platform's corporate social responsibility for mitigating traffic risk: Dynamic games and governmental regulations in O2O food delivery industry. Computers & Industrial Engineering, 169, 108188.
14. Feldman, P., Frazelle, A. E., & Swinney, R. (2022). Managing relationships between restaurants and food delivery platforms: Conflict, contracts, and coordination. Management Science. https://doi.org/10.1287/ mnsc.2022.4390
15. Fischer, D., Brettel, M., & Mauer, R. (2020). The three dimensions of sustainability: A delicate balancing act for entrepreneurs made more complex by stakeholder expectations. Journal of Business Ethics, 163(1), 87–106.
16. Furunes, T., & Mkono, M. (2019). Service-delivery success and failure under the sharing economy. Interna- tional Journal of Contemporary Hospitality Management, 31(8), 3352–3370.
17. Goods, C., Veen, A., & Barratt, T. (2019). "Is your gig any good?" Analyzing job quality in the Australian platform-based food-delivery sector. Journal of Industrial Relations, 61(4), 502–527.
18. Gregory, K., & Sadowski, J. (2021). Biopolitical platforms: The perverse virtues of digital labour. Journal of Cultural Economy, 14(6), 662–674.
19. Heiland, H. (2021). Neither timeless, nor placeless: Control of food delivery gig work via place-based working time regimes. Human Relations, 75(9), 1824–1848.
20. Hess, D., Rogovsky, N., & Dunfee, T. W. (2002). The next wave of corporate community involvement: Corporate social initiatives. California Management Review, 44(2), 110–125.
21. Høgevold, N. M., Svensson, G., Wagner, B., J. Petzer, D., Klopper, H., Carlos Sosa Varela, J., Padin, C., & Ferro, C. (2014). Sustainable business models. Baltic Journal of Management, 9(3), 357–380.
22. Jawahar, N., Satish Pandian, G., Gunasekaran, A., & Subramanian, N. (2017). An optimization model for sustainability program. Annals of Operations Research, 250(2), 389–425.
23. Jia, H., Shen, S., RamírezGarcía, J. A., & Shi, C. (2022). Partner with a third-party delivery service or not? A prediction-and-decision tool for restaurants facing takeout demand surges during a pandemic. Service Science, 14(2), 139–155.
24. Joselow, M. (2020). Delivery vehicles increasingly choke cities with pollution. Scientific American.https://www.scientificamerican.com/article/delivery-vehicles-increasingly-choke- cities-with-pollution/
25. 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.
26. Kaur, P., Dhir, A., Talwar, S., & Ghuman, K. (2021). The value proposition of food delivery apps from the perspective of theory of consumption value. International Journal of Contemporary Hospitality Management, 33(4), 1129–1159.
27. Le Breton, C., & Galiere, S. (2022). The role of organizational settings in social learning: An ethnographic focus on food-delivery platform work. Human Relations,. https://doi.org/10.1177/00187267221081295

28. Leung, H. (2022). 'The price of participation': For Hong Kong eateries, delivery giants Food- panda and Deliveroo are a double-edged sword. Hong Kong Free Press. https://hongkongfp.com/2022/01/23/the-price-of-participation-for-hong-kong-restaurants- delivery-giants-are-a-double-edged-sword/.
29. Li, J., Choi, T. M., & Cheng, T. C. E. (2013). Mean variance analysis of fast fashion supply chains with returns policy. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 44(4), 422–434.
30. Li, L., Chi, T., Hao, T., & Yu, T. (2018). Customer demand analysis of the electronic commerce supply chain using Big Data. Annals of Operations Research, 268(1), 113–128.
31. Lichtenstein, N. (2020). The hidden cost of food delivery. TechCrunch. https://techcrunch.com/2020/03/16/ the-hidden-cost-of-food-delivery/.
32. Lin, M., Lin, S., Ma, L., & Zhang, L. (2022). The value of the Physical Internet on the meals-on-wheels delivery system. International Journal of Production Economics, 248, 108459.
33. Luo, S., & Choi, T. M. (2022). E-commerce supply chains with considerations of cyber-security: Should governments play a role? Production and Operations Management, 31(5), 2107–2126.
34. Moncef, B., & Dupuy, M. M. (2021). Last-mile logistics in the sharing economy: Sustainability paradoxes.International Journal of Physical Distribution & Logistics Management, 51(5), 508–527.
35. Niu, B., Li, Q., Mu, Z., Chen, L., & Ji, P. (2021). Platform logistics or self-logistics? Restaurants' cooperation with online food-delivery platform considering profitability and sustainability. International Journal of Production Economics, 234, 108064.
36. Pandey, S., Chawla, D., & Puri, S. (2022). Food delivery apps (FDAs) in Asia: An exploratory study across India and the Philippines. British Food Journal, 124(3), 657–678.
37. Piasna, A., & Drahokoupil, J. (2021). Flexibility unbound: Understanding the heterogeneity of preferences among food delivery platform workers. Socio-Economic Review, 19(4), 1397–1419.
38. Preetha, S., & Iswarya, S. (2019). An analysis of user convenience towards food online order and delivery application (Food app via platforms). International Journal of Management. Technology and Engineering,
39. pp. 429–433.
40. Raza, A., Asif, M., & Akram, M. (2022). Give your hunger a new option: Understanding consumers' continuous intention to use online food delivery apps (OFDAs) using trust transfer theory. International Journal of Consumer Studies, Published Online, https://doi.org/10.1111/ijcs.12845
41. Schulz, S. A., & Flanigan, R. L. (2016). Developing competitive advantage using the triple bottom line: A conceptual framework. Journal of Business & Industrial Marketing, 31(4), 449–458.
42. Seghezzi, A., & Mangiaracina, R. (2020). On-demand food delivery: Investigating the economic performances. International Journal of Retail & Distribution Management, 49(4), 531–549.
43. Seghezzi, A., Winkenbach, M., & Mangiaracina, R. (2021). On-demand food delivery: A systematic literature review. The International Journal of Logistics Management, 32(4), 1344–1355.
44. Shanahan, G., & Smith, M. (2021). Fair's fair: Psychological contracts and power in platform work. The International Journal of Human Resource Management, 32(19), 4078–4109.
45. Sheu, J. B., & Choi, T. M. (2022). Can we work more safely and healthily with robot partners? A human- friendly robot-human coordinated order fulfilment scheme. Production and Operations Management. https://doi.org/10.1111/poms.13899
46. Sinha, D., & Pandit, D. (2021). A simulation-based study to determine the negative externalities of hyper-local food delivery. Transportation Research Part D: Transport and Environment, 100, 103071.

47. Song, M., Fisher, R., de Sousa Jabbour, A. B. L., & Santibañez Gonzalez, E. D. (2022). Green and sustainable supply chain management in the platform economy. International Journal of Logistics Research and Applications, 25(4–5), 349–363.
48. Spence, A. (2022). Driver refused to deliver order 12 miles away after customer changed address. Newsweek. https://www.newsweek.com/driver-refused-deliver-order-12- miles-away-after-customer-changed-address-1673986.
49. Sun, P., Chen, J. Y., & Rani, U. (2021). From flexible labour to 'sticky labour': A tracking study of workers in the food-delivery platform economy of China. Work, Employment and Society. https://doi.org/10.1177/ 09500170211021570
50. Sun, Y., Wu, Z., & Zhu, W. (2022). When do firms benefit from joint price and lead-time competition? European Journal of Operational Research, 302(2), 497–517.
51. Tsai, P. H., Hsiao, W. H., & Chen, C. J. (2022). Which food delivery platforms are winning the restaurant food delivery wars? Analysis from a consumer perspective. International Journal of Consumer Studies. https://doi.org/10.1111/ijcs.12816
52. Wang, H. T. (2022). Analysis of a tripartite evolutionary game model of food delivery platform supervision and strategy selection. Technology Analysis & Strategic Management. https://doi.org/10.1080/09537325. 2022.2090329
53. Yeo, S. F., Tan, C. L., Teo, S. L., & Tan, K. H. (2021). The role of food apps servitization on repurchase intention: A study of FoodPanda. International Journal of Production Economics, 234, 108063.
54. Young, A. (2021). Most gig economy workers have been injured at work–and tool unpaid time off. Mir- ror., https://www.mirror.co.uk/money/jobs/gig-economy-workers-injured- work-25587129.
55. Zhang, T., Choi, T. M., & Zhu, X. (2018). Optimal green product's pricing and level of sustainability in supply chains: Effects of information and coordination. Annals of Operations Research. https://doi.org/10.1007/ s10479-018-3084-8
56. Zheng, J., Wang, L., Wang, L., Wang, S., Chen, J. F., & Wang, X. (2022a). Solving stochastic online food delivery problem via iterated greedy algorithm with decomposition-based strategy. IEEE Transactions on Systems, Man, and Cybernetics: Systems. https://doi.org/10.1109/TSMC.2022.3189771
57. Zheng, Q., Zhan, J., & Feng, X. (2022b). Working safety and workloads of Chinese delivery riders: The role of work pressure. International Journal of Occupational Safety and Ergonomics. https://doi.org/10.1080/ 10803548.2022.2085915