

ANNALIS  
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA  
LUBLIN – POLONIA

VOL. LV, 4

SECTIO H

2021

---

MONIKA ZIÓŁKO

ziolkom@uek.krakow.pl

Cracow University of Economics

ul. Rakowicka 27, 31-510 Kraków, Poland

ORCID ID: <https://orcid.org/0000-0003-3229-3209>

KATARZYNA SULEK

katarzyna.ewelina.sulek@gmail.com

Cracow University of Economics

ul. Rakowicka 27, 31-510 Kraków, Poland

ORCID ID: <https://orcid.org/0000-0001-6603-3225>

YULIIA SUPRUNENKO

yuliy2000sup@gmail.com

Cracow University of Economics

ul. Rakowicka 27, 31-510 Kraków, Poland

No ORCID ID

KAROLINA WEROŃSKA

karolina.weronska@gmail.com

Cracow University of Economics

ul. Rakowicka 27, 31-510 Kraków, Poland

ORCID ID: <https://orcid.org/0000-0002-5215-7662>

DOROTA DZIEDZIC

dziedzid@uek.krakow.pl

Cracow University of Economics

ul. Rakowicka 27, 31-510 Kraków, Poland

ORCID ID: <https://orcid.org/0000-0001-8358-7780>

## *The Increasing Popularity and Service Quality Assessment of Online Food Ordering Applications in the COVID-19 Pandemic. A Study of Uber Eats in Poland*

**Keywords:** consumers satisfaction; Uber Eats; coronavirus pandemic; consumer behavior; food supply chain; COVID-19

**JEL:** L15; L66; L83; L87

**How to quote this paper:** Ziółko, M., Sulek, K., Suprunenko, Y., Werońska, K., & Dziedzic, D. (2021). The Increasing Popularity and Service Quality Assessment of Online Food Ordering Applications in the COVID-19 Pandemic. A Study of Uber Eats in Poland. *Annales Universitatis Mariae Curie-Skłodowska, sectio H – Oeconomia*, Vol. 55, No. 4.

### **Abstract**

**Theoretical background:** The COVID-19 pandemic has a significant impact on every aspect of the economy and society. It forced changes in the functioning of many enterprises, also in the field of food production and delivery, and widely understood supply chains. The situation in the world has also contributed to changes in consumer behavior, which translated into, for example, forms of food delivery and payment.

**Methods:** The aim of the study is to determine the level of satisfaction of Uber Eats consumers in Poland, as well as customer behavior and habits during the COVID-19 pandemic. Another aim of this study is to identify problems and causes of customer dissatisfaction at every stage of the delivery chain. A survey of Uber Eats users is conducted to collect data on the level of satisfaction with the services offered by this company. The collected data was analyzed by means of a comparative analysis covering the two periods in which the study was conducted.

**Results and conclusions:** Researching customer satisfaction in various areas has long been of interest to scientists. Particular interesting conclusions in this regard can be observed during the restrictions related to the COVID-19 pandemic, which introduced many restrictions in the everyday life of consumers, e.g. restaurants and eateries were closed, it was only possible to order take-out or with delivery. Research carried out at that particular time could change the behavior of customers, influence their opinion, and change the requirements and preferences. The study enables a new look at food ordering services in times of epidemics and evaluates the functioning of the Uber Eats supply chain in Poland.

### **Introduction**

Technology plays a key role in the development of food delivery services, having an impact on the changes of consumer preferences. Due to society's increasing technology dependence, more and more areas of life are gradually shifting online, among them ordering ready-to-eat meals directly to one's doorstep. Convenience is a relevant factor for consumers – all it takes is just a couple of clicks and taps on a mobile device to place an order. Therefore, the popularity of online food ordering and delivery services has been steadily growing (Mitchell & Jaquet, 2020).

The research subject was chosen due to society's increasing interest in purchasing food online as well as to the fact that until now a similar study has not been conducted

nor have its results been published in Poland. Therefore, a gap was noticed in the satisfaction survey with the use of the Uber Eats application in Poland. This research is an initial attempt to complete it and a small step towards wider research in this area. The pandemic has also contributed to the increased popularity of food delivery apps among new users (Trybalski, 2020). The first stage of research was initiated just before the coronavirus pandemic, and the second stage during the first lockdown. The research sample is small because the long-term research was disrupted by the changing environmental conditions associated with the pandemic.

The main purpose of the article is to analyze the factors influencing satisfaction with Uber Eats services and the choice of the Uber Eats application from the competition. The study also presents the theoretical background related to ordering food in the world and the satisfaction with this type of service. In addition, this issue was presented in the context of the coronavirus pandemic in the world. The collected data allowed to answer the following research questions:

- Has the pandemic affected more frequent ordering of food using the Uber Eats app?
- Do users of the Uber Eats app feel that the services they offer are better than the competition?
- What are the most important factors influencing the choice of this application?
- What are the key factors determining the choice of competition's offer?
- Does education have a significant impact on the requirements for the service offered by Uber Eats?
- Which parts of Uber Eats services need improvement?

On the basis of the above findings, we formulate the following hypotheses, which we want to analyze:

H1: During the COVID-19 pandemic, the respondents were more often willing to order food using the Uber Eats app than before.

H2: According to the respondents, the services provided by Uber Eats are better than those of the competition.

H3: Discounts and promotions are the most important factor influencing the choice of the Uber Eats app by users.

H4: Lower delivery costs are a factor influencing the choice of competing companies.

H5: Respondents with higher education have higher requirements for the service than respondents with secondary education.

H6: The cost of delivery is the element of the service that needs improvement the most, according to the respondents.

## Literature review

Every year the demand for online food ordering is growing. According to some studies, the largest increase in consumer's interest in online food delivery apps was observed in 2017, when the use of such services was declared by 715.8 million people. It has been forecasted that by the end of 2024, this number will double, reaching 1432.1 million (Statista, 2020a). The statistics in Poland appear to be very similar. In 2019, the number of application users reached 5.5 million. If the forecasts turn out to be true, in the upcoming years the number of Poles using online food ordering applications will continue to grow, reaching 9.2 million users in 2024 (Statista, 2020a).

The very same statistics platform published data regarding the increasing popularity of food ordering applications in Poland during the coronavirus pandemic (Figure 1). The study compares the number of orders from two selected Internet platforms during specific time periods. Between the second week of January and the first week of March 2020 the number of online food orders has increased in Poland due to the outbreak of the coronavirus pandemic. The number of orders from Uber Eats increased by 6%, but this increase was not as significant as in the case of *pyszne.pl*, where it was equal to 57% (Statista, 2020b).



**Figure 1.** The increased use of online food ordering applications due to COVID-19 in Poland in 2020 according to the number of its actual users (in thousands)

Source: (Statista, 2020b).

Uber Eats is an American online food ordering and delivery platform launched by Uber in 2014 in Santa Monica, California, originally using the name UberFRESH. In 2015, the platform was renamed to UberEATS, and the ordering software was released as its own application, separate from the app for Uber rides (Ray, Dhir, Bala, & Kaur, 2019; Hempel, 2015; Hamad, Liu, & Zhang, 2018). Presently, it is possible to download the Uber Eats application from the Apple Store or from Google Play (Elliott, 2015; Stonehem, 2016).

Uber Eats services are available in over 600 cities in 45 countries all around the world, including North, South and Central America, in EMEA countries, Great Britain and Australia (Uber Help, 2020; Veen, Barratt, & Goods, 2020; Wahl, 2018).

However, in a report published on May 4, 2020, the company announced it would abandon its position in the UAE food delivery market, adding that providing further service would be done by the Dubai-based company – Carrem. It was also announced that the Uber Eats online platform would suspend its activity in Saudi Arabia, Egypt, the Czech Republic, Honduras, Romania, Ukraine and Uruguay (Bandoim, 2020).

Uber Eats services have been available in Poland since 2017. The first city to partake in them was Warsaw. Within the next three years, the number of Polish cities where Uber Eats operated reached 31 (Trybulski, 2020). Despite the pandemic, in April 2020, the amount of restaurants having signed a partnership contract with the Uber company increased by 188% compared to January that same year. Simultaneously, between April and May 2020, the number of the Uber Eats applications downloaded by users in Poland amounted to 126,000 (Izakowski, 2020).

Uber Eats services are provided via the application, enabling consumers to order meals from restaurants, which are then delivered to them by a delivery person. Therefore, the platform users have the chance to order from places that do not typically provide delivery services. Thus, the array of restaurants available in the Uber Eats service package is much greater than its competitors' (Di Lascio, 2017, pp. 22–24).

The popularity of food ordering applications as well as the quality assessment of such services has been frequently studied by researchers and economists all around the world. For example, there was a study conducted in Bhopal, India, in 2019 (Beliya et al., 2019). Its aim was to assess how the possibility to order meals online impacted the citizen's eating habits, as well as to discover their preferences and the factors standing behind the choices they made when it came to picking an offer. The conducted studies showed that most application users were aged between 18 and 25. The most frequently ordered meal was dinner and the big majority of the questioned respondents declared that they used online apps to purchase fast food. According to the survey participants, the most popular food ordering application was Zomato, with Uber Eats coming in second place. Other studies, also conducted in India (in the city of Pune), concerned consumers' opinion on food delivery services, factors determining whether the customer decided to order online or not and which food delivery platform was most often chosen by consumers (Das, 2018). There were four food delivery applications mentioned in the study: Zomato, Uber Eats, Swiggy and Foodpanda. In each category analyzed in the study, Uber Eats always came in last among the four delivery apps. Both in terms of offered discounts, restaurant choice, as well as delivery punctuality and customer service, Uber Eats was the lowest-rated company. In each of these categories Zomato achieved the highest ratings. Similar results were found in a study in which only three applications were analyzed: Zomato, Swiggy and Uber Eats (Raina, Rana, & Thakur, 2019). According to this study, Uber Eats was once again the lowest-rated company.

In December 2019, Uber Eats commissioned Deloitte – one of the “Big Four” accounting organizations and the largest professional services network in the world – to prepare a report about the impact of food delivery platforms on both chain restaurants

and the independent ones. The food delivery sector in Europe has been expanding. Primarily, it was led by companies like Just Eat and takeaway.com. Soon other players joined the sector, such as Uber Eats – the subsidiary of the passenger transportation enterprise Uber, British Deliveroo and Spanish Glovo (Reuters Staff, 2020).

The online platform de.reuters.com presented study results regarding the impact of delivery platforms on the profits made by restaurant owners. An analysis was conducted examining the increase in restaurant sales in selected European capitals after having begun cooperating with the delivery company Uber Eats. Among the countries studied, the greatest increase of income was observed in Paris (74%), then in London (69%), Warsaw (67%) and Madrid (59%). December 2019 turned out to be the period of time in which many studies were conducted and numerous detailed reports were prepared on Uber Eats business. The report *Food Moods in India* was then written, aiming at seeking answers to “Why India eats out of home food?” rather than “What India eats out of home?”, which were later summed up in an article prepared by ETBrandEquity (2019).

Uber Eats conducted a survey among the inhabitants of India in order to determine the driving factors of food ordering via mobile applications. According to the results of the research, most people living in India (the representatives of the research sample), decide to order ready-to-eat meals wanting to break monotonous routines or due to reasons of convenience (28% in each case). The study affirms that in over  $\frac{3}{4}$  of all cases consumers get their orders delivered to their homes and almost half of all the survey participants (48%) prefer their order to be brought there. The significant majority (93%) of ordered meals are for dinner.

Similar studies were conducted in other parts of the world, like Australia (Roy Morgan, 2018). The results proved that almost 2 million Australians over the age of 14 years old, representing 9.8% of the Australian population, declare the use of food ordering applications such as Uber Eats. One of the most trustworthy studies, being the basis upon which Uber Eats customer satisfaction is analyzed, is the document *Uber Eats – Strategic Marketing Report* (Szallasi, Johnson, Kelsey, Roche, & Miller, 2016). This study was conducted once again in Australia. Its results have demonstrated that the vast majority of Australia’s inhabitants order food via the Uber Eats application on Fridays and/or Tuesdays, declaring that order or consumption of meals outside the home is done once or twice a week. Moreover, the greater part of the study participants express that they would like to use the services of those restaurants which offer healthier versions of traditional dishes in their menus. Similar studies were conducted in various parts of the world, e.g. in Dubai (Sharma & Waheed, 2018), in the UK (Woodcock, 2016), in Indonesia (Isabela et al., 2018), in Brazil (da Silva Monty, 2018), also during the coronavirus pandemic, e.g. in the United States (Raj, Sundararajan, & You, 2020).

In January 2020, WHO declared the disease a global public health emergency and on March 11, 2020, a pandemic with severe health, economic and social impact (Binns, Low, & Kyung, 2020; Zhou, Chen, & Chen, 2020; Unnikrishnan & Figliozzi,

2020). As a consequence, many food retail outlets moved to take-away and delivery services and the use of the online food delivery platform increased. Cooperation with applications were the only solution for many restaurants to survive on the market. They gave the food ordering industry a big boost (Sumagaysay, 2020; Hossain, 2021; Mhlanga, 2020). Profits of food delivery companies have even doubled (Forman, 2021). For example in Brazil: during the lockdown, the use of these applications (apps) increased by 9% on weekdays and 10% on weekends (Oliveira, Abranches, & Lana, 2020; Petetin, 2020).

The presented studies are only a general depiction of the data concerning the used apps, taking into account factors such as preferred dishes, available discounts, the choice of restaurants or the level of customer service. It is necessary to complete the provided statistics with information that will make it possible to discern what makes one application better than the competitors' in the eyes of the customers, and in the long run why the delivery service of one company stands out among the others, which factors determine the consumer's choice to use one service over another. Information regarding the frequency of the use of online food ordering apps may turn out to be the key element, since the opinion of the frequent users of such services, coming in closer contact with the service providers, will be more reliable and credible. Rating questions may also prove to be useful, allowing survey participants to describe their satisfaction level of each of the service elements. The analysis aims to find out in greater detail what makes the customer choose a specific application and which of the app's functional aspects require improvement.

## Research methodology

The study was conducted in the period from March to June 2020, at the time when the Polish government implemented severe sanitary policies and restrictions due to the outbreak of the COVID-19 pandemic. The participants of this survey were the users of the online food ordering application.

The questionnaire was written in Polish and distributed via social media, mainly thematic groups on Facebook regarding the subject of ordering food, modern technologies, and promotional opportunities in various types of applications. This place of making the form available was selected with the view to the potential access to the largest number of application users for ordering food, i.e. from the target group of the study. The survey was conducted online, composed of 21 questions. The respondents were asked to answer 2 open-ended questions, 3 semi closed-ended questions, 14 closed-ended questions, 2 rating questions and 7 demographic questions. Some questions were calibrated with scales for measuring attitudes: the Likert scale and the Stapel scale.

There were 181 responses collected, of which 52 questionnaires were eliminated, because a fraction of the survey participants did not use Uber Eats services, another

fraction did not fill out their questionnaire correctly or submitted the survey before reaching the end. 129 surveys made it to the final and were eventually analyzed. All the collected data for the survey is primary, which means that it comes directly from the study questionnaire filled out by the participants and has not been previously modified in any way (Table 1).

**Table 1.** Distribution of the sample

N = 129		Frequency	Percent
Gender	female	92	71.32
	male	37	28.68
Age	under 18 years old	-	-
	19–26 years old	111	86.05
	27–35 years old	14	10.85
	36–45 years old	4	3.10
	46–65 years old	-	-
	over 65 years old	-	-
Education	primary education	-	-
	vocational education	3	2.33
	secondary education	61	47.29
	higher education	65	50.39
Place of residence	village	14	10.85
	city with up to 25,000 residents	4	3.10
	city with 25,000 up to 100,000 residents	9	6.98
	city with 100,000 up to 500,000 residents	9	6.98
	city with over 500,000 residents	93	72.09
Marital status	married	10	7.75
	single	118	91.47
	divorced	1	0.78
	widowed	-	-
Monthly income	< PLN 1,000	30	23.26
	PLN 1,000–3,000	52	40.31
	PLN 3,000–5,000	36	27.91
	PLN 5,000–8,000	8	6.20
	> PLN 8,000	3	2.33

Source: Authors' own study.

## Empirical results

The first step in the data analysis process is the measurement test. To test the reliability and validation of the survey instrument, reliability test Cronbach's  $\alpha$  was used,  $\alpha$  exceeded the level of 0.8 (both in terms of customer expectations and level of satisfaction), as suggested in literature, indicating consistency between the items in a construct (Table 2).



**Table 2.** Measurement test and descriptive analysis

Measurement scale	Min	Max	Mean	SD	Cronbach's $\alpha$
Important factors in ordering food	1.00	5.00	4.15	0.99	0.83
Satisfaction with Uber Eats	1.00	5.00	3.64	1.10	0.85

Source: Authors' own study.

The analysis showed a statistically significant relationship between the month and the frequency of ordering food using Uber Eats (Table 3). During the pandemic, food was ordered more often through Uber Eats. There is therefore evidence that hypothesis 1 is true.

**Table 3.** The relationship between the frequency of ordering food through the Uber Eats app before and during the pandemic

	March (N = 50)		May/June (N = 79)	
	N	%	N	%
Less often than once a month	24	41.4	34	58.6
Once a month	17	38.6	27	61.4
Several times a week	5	38.5	8	61.5
Once a week	4	28.6	10	71.4
Every day	0	0	0	0
		$\chi^2$	$p$	$V$
The relationship between the frequency of ordering food through the Uber Eats app before and during the pandemic		0.78	0.85	0.08

Source: Authors' own study.

Having analyzed the study results, the following interesting and relevant conclusions were drawn:

Only 10.85% of the respondents order food via telephone, 40.31% via the Internet and 84.5% use the smartphone application. The study participants could choose more than one answer. Only 3% of them use all three food ordering channels alternatively.

87.60% of the respondents ordered food via competing applications. Therefore, their opinion of Uber Eats is more credible and reliable. Over half of the respondents (60.18%) rate the quality of Uber Eats services on a similar level as the competition's. 23% believe it is little better or much better than the competitors' and 16.81% say it is worse or much worse (Table 4). The research results do not allow for a positive

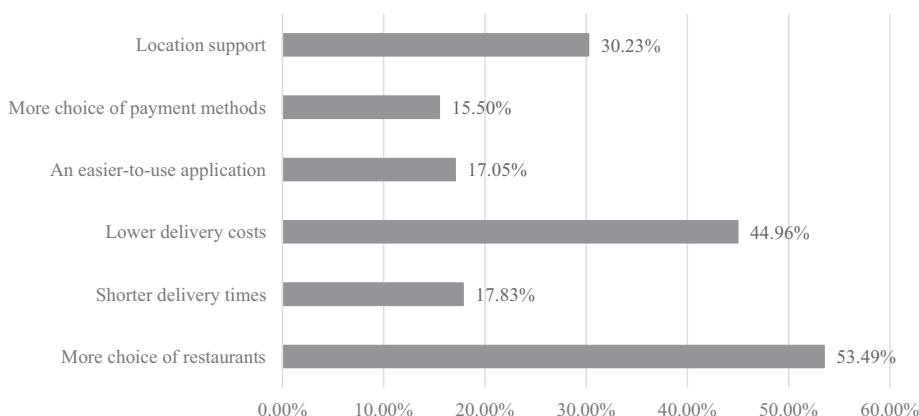
verification of hypothesis 2, because only about ¼ of the respondents consider Uber Eats services to be better than competing services.

**Table 4.** Assessment of the quality of Uber Eats services compared to competitors using the Stapel scale

	Scale	N	%
Much better	+2	7	6.19
A little better	+1	19	16.81
Comparable	0	68	60.18
A worse	-1	14	12.39
Much worse	-2	5	4.42
Sum		113	100
Mean	0.08		
SD	0.85		

Source: Authors' own study.

The most important factor determining that consumers took up the competitors' offer is a greater choice of restaurants (53.49%), then lower delivery costs (44.96%) and the location where Uber Eats operates (30.23%). Additionally, the study participants paid attention to: free delivery offers, what popped out first while searching the Internet, the success rate of card payment (with Uber Eats it was not always successful, whereas the competitors managed to avoid such payment issues), and platform reliability. On the basis of the answers provided, the hypothesis assuming that the most important factor determining the selection of competitive companies is lower delivery costs cannot be accepted. A more important factor turned out to be a greater choice of restaurants, so hypothesis 4 should be rejected.

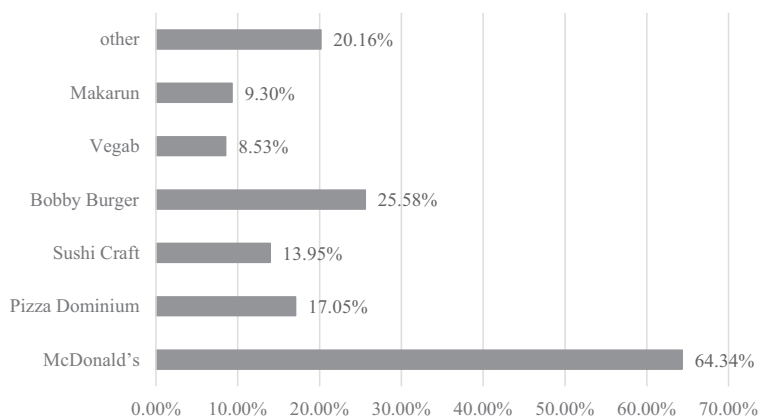


**Figure 2.** What made you choose the services of Uber Eats' competing companies?

Source: Authors' own study.

The studied participants use Uber Eats not more than once a month (44.96%), a third of them uses the services once a month (34.11%). Nobody uses the service every day, but 10.08% of the respondents use it a few times a week, another 10.85% once a week.

The respondents use Uber Eats for many reasons. The four mentioned most often are: convenience (62.02%), discounts and special offers (62.02%), saving time (46.51%) and socializing with friends (41.86%). Only about 5% of the study participants choose the service because they cannot cook. The research shows that discounts and special offers are as important as the convenience of not having to prepare a meal yourself. Therefore, hypothesis 3 should be rejected because the factor indicated in it is not the only most important factor. 84.5% of the respondents are satisfied with the services provided by Uber Eats, 7.21% of them are dissatisfied and 9.30% do not have an opinion on the matter. The definite majority of meals delivered via Uber Eats is ordered by the study participants from McDonald's (64.34%) and Bobby Burger (25.58%) – Figure 3.



**Figure 3.** Which restaurants do you order from most often using Uber Eats services?

Source: Authors' own study.

Part of the study was aimed at identifying customer needs and expectations regarding specific aspects of Uber Eats services. Based on the collected survey answers, a model was created defining the gap between customer expectations and the quality of the received services. The respondents rated each factor using a five point scale, where 5 was assigned to the most significant factor, whereas 1 – to the least significant. The expectations of respondents with secondary and higher education were checked, in relation to the Uber Eats service and how it would assess the level of satisfaction with the service received. The results are presented in Table 5 and 6.

**Table 5.** Research results for individual factors determining the expectations of respondents, distinguished by education

		Please rate on a scale of 1 to 5 how important are the following factors to you when using Uber Eats? (where 5 are important factors and 1 are irrelevant factors)						
		User-friendly app design	Range of available restaurants	Restaurant diversity	Waiting time for orders	State of the delivery upon reception (is the order food warm, has the packing been damaged during transportation)	Couriers' conduct and manners	Delivery costs
All	Min	1.00	1.00	1.00	2.00	1.00	1.00	1.00
	Max	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Mean	4.01	4.34	4.05	4.23	4.40	3.80	4.26
	SD	1.03	0.90	1.02	0.91	0.88	1.03	1.02
Higher education	Min	1.00	1.00	1.00	2.00	1.00	2.00	2.00
	Max	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Mean	3.94	4.27	3.97	4.27	4.41	3.77	4.30
	SD	1.05	0.94	1.10	0.92	0.89	0.99	0.96
Secondary education	Min	1.00	1.00	2.00	2.00	1.00	1.00	1.00
	Max	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Mean	4.13	4.43	4.16	4.21	4.39	3.85	4.21
	SD	0.94	0.83	0.93	0.86	0.86	1.08	1.08

Source: Authors' own study.



**Figure 4.** The results of the research for the individual factors determining the expectations of respondents by education

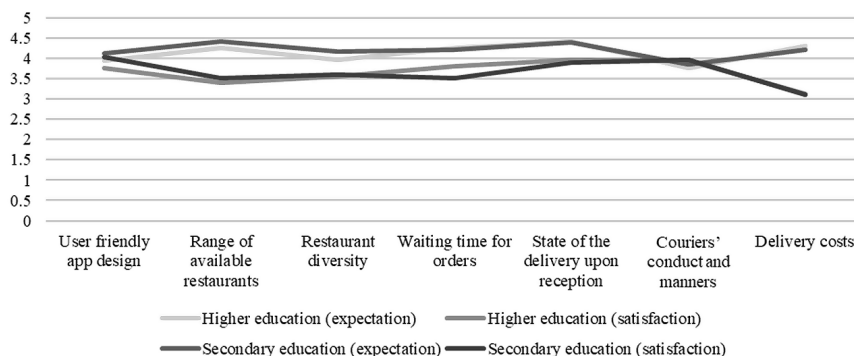
Source: Authors' own study.

In most factors, the expectations of people with higher education turned out to be lower than those of people with secondary education. The largest discrepancy between expectations concerned user-friendly app design (-0.25), restaurant diversity (-0.25) and range of available restaurants (-0.21). The similar expectations of both groups concerned the waiting time for orders and delivery costs (Figure 4). It can therefore be assumed that hypothesis 5 that respondents with higher education have higher requirements for Uber Eats services than respondents with secondary education has not been positively verified.

**Table 6.** Research results for individual factors determining the level of satisfaction of the respondents, distinguished by education

		Please rate your satisfaction level on a scale of 1 to 5 on the basis of the following factors (where 1 is very dissatisfied and 5 is very satisfied)							
		User-friendly app design	Range of available restaurants	Restaurant diversity	Waiting time for orders	State of the delivery upon reception (is the order food warm, has the packing been damaged during transportation)	Couriers' conduct and manners	Delivery costs	
All	Min	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Max	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Mean	3.88	3.43	3.54	3.65	3.91	3.95	3.09	
	SD	1.12	1.04	0.95	1.07	0.96	1.01	1.28	
Higher education	Min	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Max	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Mean	3.77	3.39	3.55	3.80	3.97	3.95	3.12	
	SD	1.13	1.14	1.02	1.06	1.01	0.97	1.32	
Secondary education	Min	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Max	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Mean	4.03	3.51	3.61	3.52	3.89	3.97	3.10	
	SD	1.11	0.96	0.90	1.09	0.91	1.08	1.29	

Source: Authors' own study.



**Figure 5.** The difference between Uber Eats' customer expectations and the provided service

Source: Authors' own study.

Respondents with higher education had lower expectations as to the services provided by Uber Eats (4.07, secondary education – average 4.20) and assessed the services received lower (average 3.51, secondary education 3.66), nevertheless, the proportions in the gaps between expectations and satisfaction are very similar. The difference in expectations between people with higher education and people with secondary education is -0.57, while in satisfaction it is -0.54. The largest discrepancy between expectations and satisfaction concerns delivery costs and it is very similar in both groups (university education gap 1.19, secondary education 1.11). It is therefore the most important factor that Uber Eats should work on improving. Other factors that should be improved are: the range of available restaurants (-0.89 and -0.92, respectively), and the waiting time for order completion (-0.46 and -0.69). Detailed results are presented in Figure 5.

Interesting and thought-provoking outcome of the study are the differences arising from the respondents remuneration. The study includes also this aspect in order to demonstrate the differences in the answers provided by each group. The results are presented in Table 7.

**Table 7.** The difference between Uber Eats' customer expectations and the provided service

Respondents' monthly income	Gap between expectations and received service	Please rate on a scale of 1 to 5 how important are the following factors to you when using Uber Eats? (where 5 are important factors and 1 are irrelevant factors)						
		User-friendly app design	Range of available restaurants	Restaurant diversity	Waiting time for orders	State of the delivery upon reception (is the order food warm, has the packing been damaged during transportation)	Couriers' conduct and manners	Delivery costs
0–1,000 PLN	expectations	3.84	4.29	3.94	4.06	4.32	3.68	4.13
	received service	3.94	3.39	3.52	3.39	3.71	4.10	2.74
	difference	0.10	-0.90	-0.42	-0.68	-0.61	0.42	-1.39
1,000–3,000 PLN	expectations	4.06	4.37	4.14	4.18	4.39	3.84	4.43
	received service	3.69	3.35	3.47	3.55	3.88	3.80	3.18
	difference	-0.37	-1.02	-0.67	-0.63	-0.51	-0.04	-1.25
3,000–5,000 PLN	expectations	4.11	4.33	4.11	4.47	4.42	3.83	4.11
	received service	4.03	3.61	3.61	3.89	4.00	4.08	3.33
	difference	-0.08	-0.72	-0.50	-0.58	-0.42	0.25	-0.78
5,000–8,000 PLN	expectations	3.75	4.38	3.75	4.25	4.75	4.13	4.13
	received service	4.25	3.25	3.13	3.88	4.00	3.63	2.88
	difference	0.50	-1.13	-0.63	-0.38	-0.75	-0.50	-1.25
Over 8,000 PLN	expectations	4.33	4.00	3.00	3.33	3.67	2.67	4.33
	received service	3.00	2.33	3.33	4.00	4.00	4.00	2.33
	difference	-1.33	-1.67	0.33	0.67	0.33	1.33	-2.00
All	expectations	4.01	4.34	4.05	4.23	4.40	3.80	4.26
	received service	3.88	3.43	3.55	3.65	3.91	3.95	3.09
	difference	-0.12	-0.91	-0.50	-0.58	-0.49	0.16	-1.17

Source: Authors' own study.

Analyzing the data displayed in Table 7, the following conclusions can be drawn for each of the singled-out groups:

#### **User-friendly application design**

The application's design exceeded the expectations of those respondents whose remuneration was lowest (that is unemployed students; +0.10) and whose monthly income totalled between PLN 5,000 and PLN 7,000 (+0.50). The other respondents considered Uber Eats' app design as less friendly than expected – the most disappointed were the respondents who earned the most, with an income of over PLN 8,000.

#### **Range of available restaurants and their diversity**

All the survey respondents were disappointed with the number of restaurants available in the Uber Eats app. The rate of disappointment was reduced in the second round of the conducted survey. However, throughout the entire study, the gap between the expectations and reality turned out equal to -0.9%. The study participants also rated the restaurant diversity negatively (general result -0.5%), even though for the group of respondents earning the most their received service slightly exceeded expectations (+0.33). Despite the stats, it may come as a surprise that although many other types of restaurants were available via Uber Eats' app, the respondents would mostly order from fast food places, omitting other restaurants.

#### **Waiting time for orders**

The waiting time for order fulfillment was described by the majority as “longer than expected” (-0.58). Only the group of the highest income respondents felt that the waiting time for orders was shorter than expected (+0.67).

#### **State of the delivery upon reception**

The respondents were also asked to rate the state of the delivery they received. Two aspects were taken into account when rating: 1) if the food arrived warm and 2) had the packaging been damaged during transportation. Only the group of higher-earning individuals rated the state of the delivery as exceeding expectations (+0.33), whereas the other respondents were disappointed with the delivery (-0.49).

#### **Couriers' conduct and manners**

This service delivery aspect exceeded the expectations of the majority of the study participants (+0.16), even though for the group earning between PLN 1,000 and PLN 2,999 the gap between expectations and received service was inconsiderably

small (-0.04), and much bigger for the individuals earning between PLN 5,000 and PLN 7,999 (-0.50). The couriers' manners considerably exceeded the expectations of those with the highest income (+1.33) which may be the result of either having had low expectations in the first place or the exceptionally good courier service provided by Uber Eats.

### **Delivery costs**

All the respondents were disappointed with the delivery costs. They exceeded expectations considerably (-1.17). Surprisingly, the group most disappointed with the delivery costs turned out to be the one composed of the highest-earning individuals (-2.00). The respondents least unhappy were those earning between PLN 3,000 and PLN 4,999 (-0.78).

In conclusion, 6 out of 7 factors were a source of disappointment for the respondents. The only factor which came as a pleasant surprise was the courier's conduct and manners. The biggest disappointment was the delivery costs, which most likely triggered the customers to try the competition or use Uber Eats only when provided the free delivery offer. It was this factor that showed the greatest gap between the expectations of the respondents and the quality of the services received. On this basis, it is possible to positively verify hypothesis 6, in which this factor was identified as the most requiring improvement.

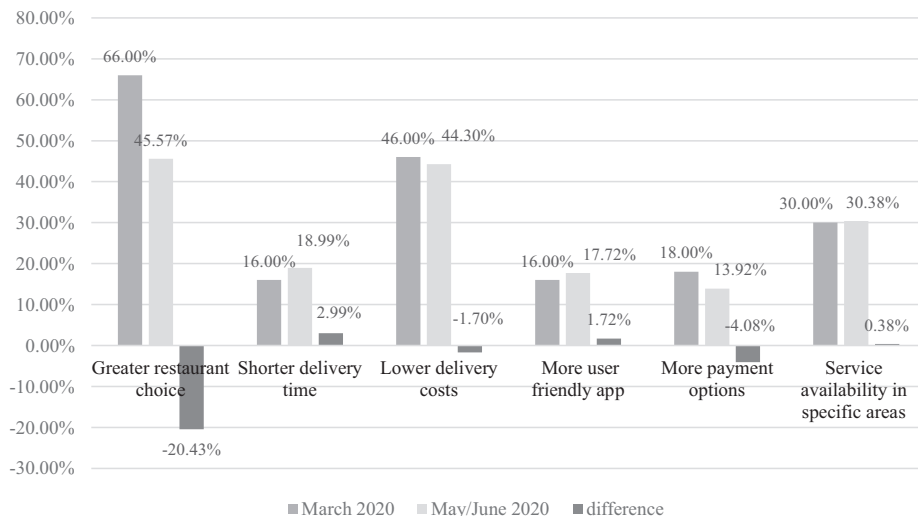
The results of the study in the second part of the analysis were divided into two groups: the first, in which the respondents filled out the survey in March (at the very beginning of the implemented restrictions connected with the coronavirus, among others the closing of restaurants), the second in which the study participants filled out the survey in May and June, after some of the restrictions were lifted and many restaurants once again opened and were run following the new sanitary regime. This analysis method aims to compare and verify if the consumer preferences, their behavior, the frequency and motivation standing behind their food orders differs between time periods.

While analysing the two time periods, it is worth noticing that:

- the number of phone orders decreased by 5 percentage points (pp), online platform orders increased by 7 pp,
- new customers who had never ordered from the competition joined Uber Eats' consumers. In March, 94% of the respondents had previously used the competing services, whereas in May/June there were only 83.54% of them, which points to the fact that new customers were attracted,
- similarly to the general study, the respondents chose the competition due the greater range of restaurants to choose from. However, during the second examined period the percentage of customers dissatisfied with the number of restaurants decreased by 20.45 pp (from 66% in March to 45.57% in May/June). This may be the result of Uber Eats expanding its offer at this time.



Figure 6 presents Uber Eats customers' preferences in both of the examined time periods and the differences between them.



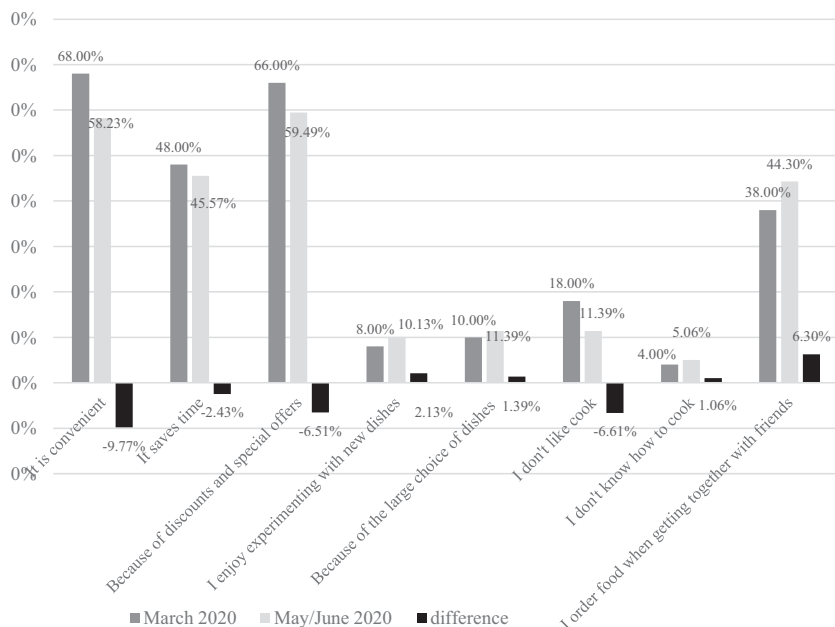
**Figure 6.** What made you choose the competitors' services?

Source: Authors' own study.

In May/June, the respondents rated Uber Eats' services higher than its competition. In March, the percentage of people rating Uber's services as better or much better than the competition amounted to 19.15%. In May/June, the number rose to 25.76%. The percentage of people rating the quality of Uber Eats' service as worse or much worse decreased to 23.4% in March and 12.12% in May/June. This improved rating can also be noticed in Uber Eats' general customer satisfaction. The percentage of satisfied and very satisfied customers reached 80% in March and 87.35% in May/June, as for those dissatisfied and very dissatisfied the number amounted to 12% in March and 7.59% in May/June.

Over the time period of 2 months, the motivations behind Uber Eats' customer choices had also changed. In both examined periods, the percentage of respondents recommending Uber Eats' services to their friends had not changed (76%). The number of people who would not recommend these services decreased twice from 16% to 7.59% and similarly, the number of respondents who were not sure if they would recommend the service increased from 8% to 16.46%.

Figure 7 presents the motivation behind the customers' choice of Uber Eats' services in the two examined time periods and the difference between them in percentage points.



**Figure 7.** Why do you use the services provided by Uber Eats?

Source: Authors' own study.

A relevant part of the study were the respondents' comments and remarks regarding changes which should be implemented in order to improve Uber Eats' performance. They are the following:

- cutting delivery costs,
- broadening the choice of available restaurants,
- putting more emphasis on courier training, especially when it comes to their knowledge of Polish and English, as well as the layout of the city and handling a GPS device,
- restoring joint deliveries,
- restoring free delivery offers,
- introduction of payment bonuses for dedicated couriers,
- adding shopping delivery services and the option of purchasing alcoholic beverages,
- increase the number of restaurants offering the self pick-up option (it is not currently available everywhere),
- expanding the delivery range, including suburban areas,
- improving the application (which is not always reliable),
- standardizing the delivery areas – according to the respondents, some locations are available, e.g. only by phone order, and not via the Internet or application.

## Discussion

The 21<sup>st</sup> century favors technological advancement. Over the last few years, a number of developments have been implemented. Their goal is to add convenience and improve society's living conditions. Among many of the mentioned advancements are online food ordering applications. All it takes is just a few clicks, and *voilà* – soon enough your ready-to-eat meal is delivered directly to your doorstep. That is precisely the reason as to why this option has proven itself among consumers. Since 2017, the interest in food ordering application services in Poland has increased by 68%, while simultaneously the number of users of the “Platform to Customer delivery” segment has more than doubled. The socio-economic situation related to the coronavirus contributed to the development of interest in applications for ordering food. Closing the restaurant and leaving people at home has increased the number of users of the application.

The aim of the research was to measure the level of satisfaction of Uber Eats customers with the application, through which the customer can conveniently and easily order food and the delivery service itself, and to compare this level with the period before and during the restrictions related to the COVID-19 pandemic.

The prepared analysis and observations have made it possible to draw the conclusion that both in Poland and abroad consumers prefer the services of Uber Eats' competitors. The survey data collected in India from 153 respondents have demonstrated that only 2% of Uber Eats' users are satisfied with their services enough for them to be first choice when ordering meals online. In the conducted study 87.5% of the participants affirm that they order from competing platforms, which provide service of similar quality as Uber Eats (60.2%). 16.8% of the respondents declare that the services of Glovo or *pyszne.pl* are slightly better and 5.5% of them believe they are much better than those of Uber Eats.

The factors determining the choice of competing platforms are the following: greater choice of restaurants – pointed out by the respondents almost 54% of the time, lower delivery costs offered by the competitors – being a key element for 45% of the survey participants, and finally the area where Uber Eats delivery services were provided – chosen by 30% of the respondents. The research made it possible to meet the goals set by the authors. Based on the analysis of the respondents' responses, the level of satisfaction with various areas of Uber Eats' activity was determined, and the strengths and weaknesses of the application for ordering food were identified. The observed changes in consumer behavior during the lockdown period were also an important element of the study. The study also attempted to compare the offer with competing companies. The conclusions drawn allowed us to assess the level of Uber Eats' services at a low level in relation to the competition. The research allowed to verify all the hypotheses, a summary of the verification results is presented in Table 8.

**Table 8.** Summary of the study results

	Hypothesis	Adopted
H1	During the COVID-19 pandemic, respondents were more often to order food using the Uber Eats app than before.	Yes
H2	According to respondents, the services provided by Uber Eats are better than those of the competition.	No
H3	Discounts and promotions are the most important factor influencing the choice of the Uber Eats app by users.	No
H4	Lower delivery costs are a factor influencing the choice of competing companies.	No
H5	Respondents with higher education have higher requirements for the service than respondents with secondary education.	No
H6	The cost of delivery is the element of the service that needs improvement the most, according to the respondents.	Yes

Source: Authors' own study.

The article is one of the first attempts to capture the changes taking place in one sector of the economy (trade and services), and thus the purchasing behavior of consumers as a result of the lockdown and the reduction of contacts and access to shops and restaurants.

Professionalism of the staff is another factor triggering a negative response from Uber Eats' customers. The survey conducted in Pune provided the means to classify online food delivery platforms taking into account the level of customer service. In the analyzed ranking, Uber Eats came in last, receiving only 18 of answers indicating the satisfaction of staff professionalism (Das, 2018). Thought-provoking findings were extracted from studies conducted in Poland. Despite the fact that a big fraction of the individuals surveyed gave positive feedback regarding the delivery staff's manners, and in the comparative study it was rated as exceeding expectations, there were clear suggestions that the big issue concerning the lack of basic abilities to use the GPS system in order to find the right delivery location. Another problem is the language barrier, revealing itself in the form of the couriers' lack of knowledge of Polish or English, which therefore results in difficulties understanding instructions regarding the order.

However, Uber Eats also has some positive aspects to its services. One of them is the brand's reputation which plays a huge role, because the services are offered all over the world. Moreover, research carried out in Poland proves that website users are very satisfied with such aspects of the service as the user-friendly application design. The waiting time for the order and its status at the time of receipt are also well received by the customers.

In conclusion, the conducted research proves that the level of Uber Eats customer service, both in Poland and abroad, is rather low. The rating comes as a result of high delivery costs and a larger range of restaurants in offer from competing food delivery companies. However, the positive sides of the platform are significant enough that provided they are properly strengthened, appropriate responses are implemented countering threats from the environment and attempts are made to eliminate weak-

nesses, the company may stand a chance to change its position in the market and in the long run – to even become the industry leader. However, this would require a lot of effort, the ability to draw conclusions from the company's own mistakes, and drawing inspiration from the results achieved by competing companies.

## Conclusions

Online food ordering applications have revolutionized the food delivery market. Moreover, forecasts made by the German data platform *statista.com* prove that at the turn of the next few years, the interest in this type of services will almost double, expanding the user group to 1,322.1 million by 2024.

However, taking into account that it is a rather new phenomenon, not many studies have been yet conducted, aiming to determine the satisfaction level of online food ordering and delivery platform users. Research carried out in the long term could be expanded to include additional aspects, e.g. an interesting solution would be a study that broadens horizons to determine the level of satisfaction with Uber Eats services directed towards restaurateurs and couriers cooperating with the company, which, in turn, would provide a list of pros and cons of the service, enabling thereby the strengthening of the positive sides and taking action in order to improve aspects assessed negatively.

The conducted study proves that the most problematic area is the level of customer service and connected to it, the manners of Uber Eats couriers. The vast majority of the respondents assess this factor very positively, but the answers provided in the additional comments and remarks section clearly suggest that some particular elements of customer service need improvement. To avoid this kind of contradiction and identify the causes of the discrepancies, researchers in subsequent studies should broaden their scope of interests, including issues that focus on staff professionalism.

In addition, the COVID-19 pandemic has had a significant impact on the research, therefore, it is fully justified to acknowledge its impact on the interest in the Uber Eats service package and conveniences thus introduced, such as the “leave at door delivery” option or the obligation to wear masks or protective headgear by the delivery staff. Upon intending to conduct further research in a broader perspective, these aspects should also be considered and the study ought to be expanded to include issues related to the fulfillment of basic security standards by the company's staff. It would also be interesting to repeat the research after the economy thawed after the coronavirus (opening a restaurant) and to verify the degree of continued interest in the application over the long term.

## References

- Bandoim, L. (2020). Uber Eats Plans to End Operations in Eight Markets. *Forbes*, 4.
- Beliya, A., Kujur, R., Verma, M., Nagwanshi, K.V., Sahu, S., Uikey, N., & Bhat, A.A. (2019). Satisfaction of Consumers by Using Online Food Services. *International Journal of Humanities and Social Sciences*, 8(4), 35–44.
- Binns, C., Low, W.Y., & Kyung, L.M. (2020). The COVID-19 Pandemic: Public Health and Epidemiology. *Asia Pacific Journal of Public Health*, 32(4). <https://doi.org/10.1177/1010539520929223>
- da Silva Monty, R.C. (2018). Creative Economy: How the Interface of Uber Eats and iFood Could Change Your Menu. *Brazilian Journal of Operations & Production Management*, 15(3), 413–419. <https://doi.org/10.14488/BJOPM.2018.v15.n3.a8>
- Das, J. (2018). Consumer Perception Towards “Online Food Ordering and Delivery Services”: An Empirical Study. *Journal of Management*, 5(5), 155–163.
- Di Lascio, V. (2017). *Food and Anything Delivery Startups in a Changing World*. Bachelor’s thesis. LUISS.
- ETBrandEquity. (2019). *Ordering In Is ‘In’ Says Uber Eats Survey*. Retrieved from <https://brandequity.economicstimes.indiatimes.com/news/business-of-brands/ordering-in-is-in-says-uber-eats-survey/72388206>
- Elliott, F. (2015). UberFRESH Rebrands to UberEATS Just in Time to Expand Like Crazy. *Eater Los Angeles*. Retrieved from <https://la.eater.com/2015/5/4/8545731/uberfresh-rebrand-ubereats-expansion-deliverywire-uber>
- Forman, L. (2021). For Food Delivery, Covid-19 Was a Sugar High a New Analysis Suggests Some Heavy Indigestion ahead for Companies in the Industry. *The Wall Street Journal*. Retrieved from <https://www.wsj.com/articles/for-food-delivery-covid-19-was-a-sugar-high-11619780401>
- Hamad, F., Liu, I., & Zhang, X. (2018). Food Discovery with Uber Eats: Building a Query Understanding Engine. *Uber Engineering*.
- Hempel, J. (2015). The UberEATS Standalone App Has Nothing to Do with Rides. *Wired*.
- Hossain, M. (2021). The Effect of the Covid-19 on Sharing Economy Activities. *Journal of Cleaner Production*, 280, 124782.
- Isabela, E., Drona, J., Fadhilah, N., Tanoto, D.F., Harefa, J., Prajena, G., & Chowanda, A. (2018). NYAM: An Android Based Application for Food Finding Using GPS. *Procedia Computer Science*, 135, 393–399. <https://doi.org/10.1016/j.procs.2018.08.189>
- Izakowski, L. (2020). Uber Eats rośnie w rekordowym tempie. *SCF News Retailnet.pl*. Retrieved from <https://retailnet.pl/2020/05/19/28621-uber-eats-rosnie-w-rekordowym-tempie/>
- Mhlanga, O. (2020). ‘Meal-Sharing’ Platforms: A Boon or Bane for Restaurants?. *Current Issues in Tourism*, 1–18. <https://doi.org/10.1080/13683500.2020.1718066>
- Mitchell, T., & Jaquet, C. (2020). Uber Eats. *Revue du Crieur*, 1(15), 76–87. <https://doi.org/10.3917/crieu.015.0076>
- Oliveira, T.C., Abranches, M.V., & Lana, R.M. (2020). Food (In)security in Brazil in the Context of the SARS-CoV-2 pandemic. *Cadernos de Saude Publica*, 36, e00055220. <https://doi.org/10.1590/0102-311X00055220>
- Petetin, L. (2020). The COVID-19 Crisis: An Opportunity to Integrate Food Democracy into Post-Pandemic Food Systems. *European Journal of Risk Regulation*, 11(2), 326–336. <https://doi.org/10.1017/err.2020.40>
- Raina, A., Rana, V.S., & Thakur, A.S. (2019). Popularity of Online Food Ordering and Delivery Services – a Comparative Study Between Zomato, Swiggy and Uber Eats in Ludhiana. *International Journal of Management, Technology And Engineering*, 9(3), 6080–6088.
- Raj, M., Sundararajan, A., & You, C. (2020). COVID-19 and Digital Resilience: Evidence from Uber Eats. *arXiv preprint arXiv:2006.07204*. <https://doi.org/10.48550/arXiv.2006.07204>

- Ray, A., Dhir, A., Bala, P.K., & Kaur, P. (2019). Why Do People Use Food Delivery Apps (FDA)? A Uses and Gratification Theory Perspective. *Journal of Retailing and Consumer Services*, 51, 221–230. <https://doi.org/10.1016/j.jretconser.2019.05.025>
- Reuters Staff. (2020). *Delivery Platforms Boost Restaurant Profits in Europe – Uber Eats Survey*. Retrieved from <https://de.reuters.com/article/food-delivery-uber-survey/delivery-platforms-boost-restaurant-profits-in-europe-uber-eats-survey-idUKL8N28B0FA>
- Roy Morgan. (2018). *Metrotechs and Millennials Have Taken to Uber Eats, Menulog, Deliveroo, Foodora and More*. Retrieved from <http://www.roymorgan.com/findings/7602-food-delivery-services-march-2018-201805240625>
- Sharma, K., & Waheed, K.A. (2018). Consumption of Online Food App Services: An Exploratory Study Among College Students in Dubai. *Middle East Journal of Business*, 13(4), 4–11. <https://doi.org/10.5742/MEJB.2018.93500>
- Statista. (2020a). *Eservices Report 2019 – Online Food Delivery*. Retrieved from <https://www.statista.com/outlook/374/146/online-food-delivery/poland#market-revenue>
- Statista. (2020b). *Global Comparison – Change in Food Delivery Application Use Due to COVID-19 in Poland 2020*. Retrieved from <https://www.statista.com/statistics/1104853/poland-change-in-food-order-application-use-due-to-covid-19/>
- Stoneham, B. (2016). *UberEats Food Delivery: Learning the Basics*, vol. 1. First Rank Publishing.
- Sumagaysay, L. (2020). *The Pandemic Has More Than Doubled Food-Delivery Apps' Business. Now What?*. Retrieved from <https://www.marketwatch.com/story/the-pandemic-has-more-than-doubled-americans-use-of-food-delivery-apps-but-that-doesnt-mean-the-companies-are-making-money-11606340169>
- Szallasi, A., Johnson, E., Kelsey, R., Roche, V., & Miller, Z. (2016). *Uber Eats – Strategic Marketing Report*, Australia.
- Trybulski, Ł. (2020). *Uber Eats chwali się nowym rekordem. Na mapie Polski już 31 lokalizacji*. Retrieved from <https://superbiz.se.pl/technologie/uber-eats-chwali-sie-nowym-rekordem-na-mapie-polski-juz-31-lokalizacji-aa-kkMS-6X93-GdyW.html>
- Uber Help. (2020). *When and Where Is Uber Eats Available?*. Retrieved from <https://help.uber.com/ubereats/article/when-and-where-is-uber-eats-available-?nodeId=3f8de61e-09dd-4844-afb2-749c9ffc65a8>
- Unnikrishnan, A., & Figliozzi, M.A. (2020). *A Study of the Impact of COVID-19 on Home Delivery Purchases and Expenditures*. Portland: Portland State University.
- Veen, A., Barratt, T., & Goods, C. (2020). Platform-Capital's 'App-Etite' for Control: A Labour Process Analysis of Food-Delivery Work in Australia. *Work, Employment and Society*, 34(3), 388–406. <https://doi.org/10.1177/0950017019836911>
- Wahl, C. (2019). Uber Eats the World. *New Labor Forum*, 28(2), 87–90. <https://doi.org/10.1177/1095796019836750>
- Woodcock, J. (2016). Deliveroo and UberEATS: Organising in the Gig Economy in the UK. *Connessioni precarie*.
- Zhou, G., Chen, S., & Chen, Z. (2020). Back to the Spring of 2020: Facts and Hope of COVID-19 Outbreak. *Frontiers of Medicine*, 14, 113–116. <https://doi.org/10.1007/s11684-020-0758-9>