Do Perceived Riders' Conditions Influence Online Food Delivery? Investigating Determinants of Online Food Delivery during COVID-19 Outbreak

MAURO SCIARELLI
mauro.sciarelli@unina.it
University of Naples Federico II

ANNA PRISCO
anna.prisco@unina.it
University of Naples Federico II

LORENZO TURRIZIANI
lorenzo.turriziani@unina.it
University of Naples Federico II

VALERIO MUTO
valerio.muto@unina.it
University of Naples Federico II

Abstract

The purpose of this paper is to investigate how the COVID-19 pandemic and consumers' perception of riders' conditions influence the adoption of online food delivery. This research tries to extend the current literature on online food delivery (OFD) by adding two new perspectives not yet extensively investigated, namely COVID-19 pandemic and perceived riders' conditions. We extend the technology acceptance model (TAM) with COVID-19 and perceived riders' condition to empirically evaluate consumers' behaviours in the OFD context. This paper adopts a quantitative and exploratory approach. Specifically, the study leverages the PLS approach to SEM using SmartPLS for model evaluation. The final sample of this study consists of 492 consumers in Italy. Our research shows that both COVID-19 and perceived riders' condition negatively influence the adoption of online food delivery.

1. Introduction

The COVID-19 outbreak has led several consumers to change their shopping behaviours. Many individuals have inevitably reduced their human-to-human interactions in physical service environments and have increasingly relied on the adoption of digital media and mobile

pIJ/Volume 7 - Issue 2/2022 ISSN: 2499-1333

Submitted 15/12/2021 – Accepted 09/08/2022

devices. The global pandemic has influenced the habits of individuals, especially those related to food consumption (Cummins *et al*., 2020) and has led consumers to prefer forms of purchase characterised by contactless (Keeble *et al*., 2020). Moreover, the current pandemic has shifted consumer demand from brick-and-mortar retail to e-commerce (Barnes, 2020). Recent research shows that consumers were encouraged to avoid crowded stores and to utilise the Internet to procure everyday items (OECD, 2020a). In several countries, changes towards e-commerce have been observed along the food supply chain, where many have switched to providing food with delivery services (OECD, 2020b). Among these countries, Italy represents a context characterised by a rapid growth of the online food delivery (OFD) sector. The value of the OFD market was €560 million in 2019, its current growth is estimated at around €900 million and this value is expected to reach €1.45 billion in 2021 (Adnkronos, 2020). According to the Polytechnic of Milan Observatory (2019), ODF services now cover 16% of Italian municipalities and they have served, at least once, 75% of the population. OFD is different from traditional shopping, it refers to "internet-based services through which customers can order food and get it delivered to their doorsteps" (Ray *et al*., 2019: 222). These services allow customers to purchase a wide range of products or services online or from restaurants, reducing time spent in cooking or at restaurants (Yeo *et al*., 2017). Customers are using mobile apps or websites to identify all the nearby restaurants, scan through the menu and select the cuisine they intend to eat and order the food with the click of a button or tap of finger (Kapoor and Vij, 2018). Simply clicking the products arrive at home with minimal additional efforts and it is perceived as a useful shopping method (Kurnia and Chien, 2003). OFD platforms provide order services, payment and monitoring of the process but are not responsible for the preparation and order delivery operations (Pigatto *et al*., 2017). Currently, there is an ongoing call for more research that contributes to improve our knowledge and understanding of the determinants of the OFD use and how COVID-19 influences the adoption of these services. Moreover, OFD is a well-known example of the gig economy. Gig work has modified traditional employment relationships (Sundararajan, 2016). In the gig economy, working conditions are characterised by the strong control that companies (such as Just Eat, Uber Eats, Glovo) have on riders using platforms that monitor them (Veen *et al*., 2020). Several scholars have criticised the labour conditions and employment standards in the gig economy (Stewart and Stanford 2017; Kaine and Josserand 2019). These aspects have been neglected in the current literature. In fact, to the best of our knowledge, there are no studies specifically focused on consumer perceptions of riders' working conditions and how this affects the use of the OFD. Previous studies on OFD that have analysed factors discouraging the use of food delivery services have focused on the traditional barriers that are concomitant to e-services such as customers' security concerns (Belanche *et al*., 2020) and lack of trust (Cho *et al*., 2019). A significant limitation of these studies was the lack of attention on the critical perspectives on labour conditions of riders. The aim of this paper is to fill these gaps and, in particular, to understand how COVID-19 and perceived riders' condition influence the adoption of OFD. In order to achieve this aim, the current study uses the TAM model to capture the determinants of the user acceptance of OFD and, at the same time, it extends this model to capture the effect of both COVID-19 and perceived riders' condition. In a nutshell, we extend the TAM model with two constructs, namely COVID-19 and perceived riders' condition.

The paper is structured as follows. In Section 2, we provide the theoretical framework of our research. In Section 3, we develop our research hypotheses and the proposed model. Then, we describe the research methodology, followed by data analysis and results. The final section

Submitted 15/12/2021 – Accepted 09/08/2022

discusses the main findings and implications as well as limitations and suggestions for future research.

2. Theoretical framework

2.1. Technology acceptance model

Technology acceptance model was proposed by Davis (1989), as evolution of theory of reasoned action to explain the potential users' behavioural intention to adopt a new technology. It tries to explain acceptance of a new technology among prospective users. According to this model, intention to adopt a new technology is directly influenced by attitude and perceived usefulness. Attitude refers to individual positive or negative feelings about performing the target behaviour (Fishbein and Ajzen, 1975), while perceived usefulness concerns the "degree to which a person believes that the use of a particular system would improve his or her work performance'' (Davis, 1989: 26). Attitudes and perceived usefulness are also affected by perceived ease of use. Perceived ease of use refers to "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). TAM is one of the most widely used models in innovation adoption (King and He, 2006) and may be considered one of the most widely applied models of consumer acceptance and use of information technology (Venkatesh, 2000). The appeal of this model lies both in being specific and parsimonious, and in displaying a high-level prediction power of technology use (Lee, 2009). Davis (1989) suggested extending the TAM model with external factors to better comprehend the dynamics that could explain the behavioural intentions in a specific context. For instance, some scholars extend the model in specific contexts such as e-commerce (Gefen and Straub, 2000; Pikkarainen *et al*., 2004; Natarajan *et al*., 2016) and mobile services (Lopéz-Nicolas, *et al*. 2008; Munoz-Leiva *et al*., 2017, Rafique *et al*., 2020; Vahdat *et al*., 2021). Also, in the context of food delivery, TAM has been used as a strong framework to predict consumers' intention to use OFD (Alagoz and Hakimoglu, 2012; Okumus and Bilgihan, 2014; Lee *et al*., 2017; Kazancoglu and Yarimoglu, 2018; Roh and Park, 2019). These studies proposed an extended version of TAM, in order to increase the predicting power of the model. Alagoz and Hakimoglu (2012) extend the TAM model with trust and innovativeness, while Lee *et al*. (2017) integrated the TAM model with system quality and design quality. Similarly, Kazancoglu and Yarimoglu (2018) added two constructs to the traditional TAM model, namely perceived risk and technology anxiety. Finally, Roh and Park (2019) extended the TAM model with compatibility, convenience orientation and subjective norms.

3. Hypothesis development and research model

As previously discussed, our research is based on the TAM model, and we propose an extension version of this by integrating the dimensions of COVID-19 (COV) and riders' perception condition (RPC). The model, therefore, consists of five latent variables, assuming that they may significantly affect the behavioural intention to adopt OFD. Figure 3.1 provides a graphical representation of our research model.

According to Davis (1989), the strongest predictor of behavioural intention (BI) is attitude (ATT) assuming that the person who holds a favourable attitude towards an action will be

Submitted 15/12/2021 – Accepted 09/08/2022

more inclined to perform a particular behaviour (Rezaei *et al*., 2016). Quevedo-Silva *et al*., (2015) revealed that the significant positive attitude towards an online food delivery was an important motive for consumers' choice of purchasing food online and showed how attitude is the most important predictor of intention to use OFD. In the context of OFD, the positive influence of ATT on BI has been confirmed by several studies (Yeo *et al*., 2017; Cho *et al*., 2019; Dupta and Duggal, 2020; Troise *et al*., 2020). Hence, we propose the following hypothesis:

H.1 Attitude positively influences the intention to use OFD.

According to the TAM model, BI is influenced by perceived usefulness (PU). It refers to the perceived utility and advantages of purchasing food on apps (Troise *et al*., 2020). Several scholars showed that PU positively influences the intention to use OFD (Alagoz and Hakimoglu, 2012; Okumus and Bilgihan, 2014; Lee *et al*., 2017; Kazancoglu and Yarimoglu, 2018; Roh and Park, 2019). Hence, we propose the following hypothesis:

H.2 Perceived usefulness positively influences the intention to use OFD.

Davis (1993) found that ATT is predicted by PU and perceived ease of use (PEU). PEU shows the easiness of the system as the system is clear, understandable, and user friendly. Both these factors were examined as the main determinants of attitudes of potential users towards several kinds of actions in the adoption of apps for mobile payment (Lee, 2009) or shopping (Vahdat, 2021). Alagoz and Hekimoglu (2012) and Lee *et al*., (2017) found that both PU and PEU positively influence attitudes toward online food ordering. Hence, we propose the following hypotheses:

H.3 Perceived usefulness positively influences the attitude toward OFD.

H.4 Perceived ease of use positively influences the attitude toward OFD.

Davis (1989) suggested that PEU positively influences PU. A higher perceived ease of use leads to higher positive expectations for the outcomes of using technology (Roh and Park, 2019). When users find a technology easy to use and it does not require much effort to learn it, they will be more likely to adopt it (Tan and Ooi, 2018). Several scholars found that PU positively influenced the PU of online food delivery (Alagoz and Hekimoglu 2012; Lee *et al*., 2019). Hence, we propose the following hypothesis:

H.5 Perceived ease of use positively influences the perceived usefulness of OFD.

Situational variables refer to "factors particular to a time and place of observation which do not follow from a knowledge of personal (intra-individual) and stimulus (choice alternative) attributes, and which have a demonstrable and systematic effect on current behaviour" (Belk, 1974: 158). Gillett (1976) found that in-home shopping was often motivated by situational factors. During COVID-19 pandemic, the concern for social contact has led consumers to prefer forms of purchase characterised by contactless (Keeble *et al*., 2020). Particularly, the contactless feature and convenience of OFDs significantly contribute to users' perceived technological and mental benefits of using OFDs under COVID-19 pandemic conditions (Zhao and Bacao, 2020). Zhao and Bacao (2020) have found that COVID-19 pandemic positively influences the intention to use OFD services. Hence, we propose the following hypothesis:

H.6 COVID-19 pandemic influences the intention to use OFD services.

Several studies (Sen and Bhattacharya, 2001; Dang *et al*., 2020) have shown that firms' behaviour influences consumers' behaviour. Unethical firm behaviour increases the likelihood of negative consumer responses (Creyer and Ross, 1997; Folkes and Kamins, 1999; Joergens, 2006). In fact, consumers tend to humanise frontline employees and feel compassionate toward

Submitted 15/12/2021 – Accepted 09/08/2022

them. Previous evidence suggests that consumers may worry about these delivery employees and the poor working conditions they encounter (Belanche *et al*., 2021). Belanche *et al*., (2021) showed that consumers are not only aware about the unfair labour conditions of the workers of food delivery services and these perceptions reduce the preference to use food delivery platforms. Accordingly, the following hypothesis is proposed:

H.7 Riders' condition perception negatively influences the intention to use OFD services.

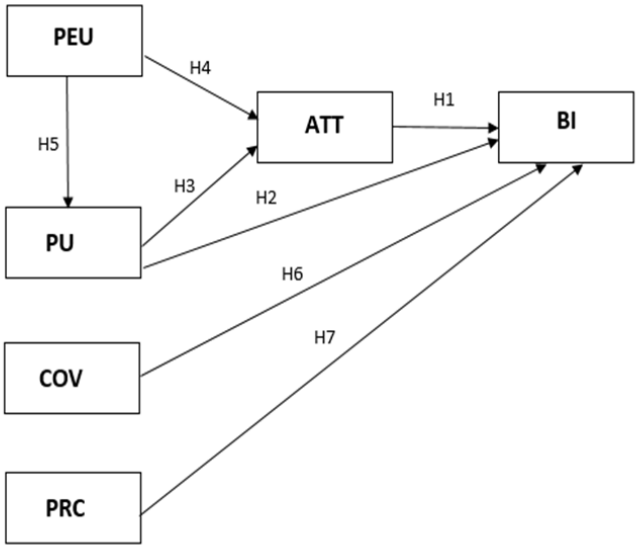

Figure 3.1. Proposed model.

4. Methodology

4.1. Measurement

Data collection was done through an online survey. We developed our questionnaire by using a pre-validated scale using online food delivery purchasing behaviour: the TAM model. BI was measured by 3 items, while PU and ATT were measured by 4 items; these constructs were adapted by Lee (2009). PEU was measured by 4 items adapted by Liebana-Cabanillas *et al*. (2017). To measure COVID-19 we used 3 items adapted by Troise *et al*. (2020), while we developed a specific scale to investigate perception of riders' condition in ODF (2 items – *I prefer not to use FDA for the working conditions of the riders; I prefer not to use FDA due to the lack of protection that riders receive*). This scale was built with the help of three professors in the area of consumer behaviour and one professional with experience in advising retail. All the items were measured on a seven-point Likert scale (1 = 'strongly disagree' and 7 = 'strongly agree'). In the first page of the survey, we included one screening question to ensure that the respondents know what means for online food delivery. At the end of the questionnaire, we asked the participants for demographic information (i.e., gender, age, level of education, frequency of the use). We collected the data in Italy and we developed the questionnaire in Italian through a translation-back-translation procedure (Saunders and Lewis, 2012). Moreover, to reduce retrieval bias (Kline *et al*., 2000) and Common method bias (CMB) (Podsakoff *et al*., 2003), we intermixed the items from different constructs. To reduce social

Submitted 15/12/2021 – Accepted 09/08/2022

desirability bias, we added guidelines to the survey to explain the scope of the survey, and to provide contacts for getting further information on the research (Saunders and Lewis, 2012).

4.2. Data collection

Before disseminating the questionnaire, we conducted a pilot survey involving 40 respondents from the target segment to ensure face validity and then, we have adapted the items with suggestions proposed by respondents. We conducted the survey for two months from February 2021 to March 2021. The survey was administered with a platform hosted by the University of Naples. After the data collection, we verified the quality of the answers (Gwozdz *et al*., 2017) and tested for the systematic effort responses (IER) (Costa and McCrae, 2008; DeSimone *et al*. 2015) looking at the longstrings (i.e., sequences of answers in the same category by a given respondent) and finding no significant evidence of them (Costa and McCrae, 2008). We reached 492 respondents.

5. Results

5.1. Demographic profile

Regarding sample characteristics, 49% of respondents are male, while 48% are female, the 3% are gender not identified. The majority of respondents are between 19–30 years old (43%) and 31–20 years old (22%), while the level of education is for 44% of respondents with a master's degree. Regarding the frequency of use, the 30% of respondents use the services sometimes and the 32% of respondent use the services often.

5.2. Measurement model

In our study, we examined the relationship between the proposed constructs instead of fitting a model (Hair *et al*., 2011). Therefore, we analysed our data using the partial least square to structural equation models (PLS-SEM) (Hair *et al*., 2011) with SmartPLS for model evaluation (Ringle *et al*., 2015). In management studies, PLS-SEM was used by several authors (Hulland, 1999), also in the studies on OFD (Yeo *et al*., 2017; Roh and Park, 2019). PLS-SEM are characterised by two stages of the analysis: (1) the assessment of the quality of the measurement model; and (2) the assessment of the structural model's predictive power.

The data for evaluating the measurement model are reported in Table 5.3.1.

Concerning the Indicator reliability, we have found that our indicators are reliable because the items' loadings on their latent is higher than 0.6 (Chin, 1998; Henseler *et al*., 2009).

Regarding the construct reliability, we have used Cronbach's alpha and Composite reliability (CR) and we found that each construct's Cronbach's alpha is higher than 0.7 (Hair *et al*., 2011) and each construct's composite reliability (CR) index is higher than 0.7 (Hair *et al*., 2011). Moreover, our constructs pass the convergent validity test because the average variance extracted (AVE) of each construct is higher than 0.50 (Hair *et al*., 2016). The constructs pass the discriminant validity (see Table 5.3.2 and Table 5.3.3). We verified that for each item the loading on the latent is related to it is higher than the one on the other constructs (Ravand and Baghaei, 2016) and with the Fornell-Larcker criterion, we verified that the square root of all

Submitted 15/12/2021 – Accepted 09/08/2022

constructs is higher than the correlations of these constructs with the other ones in the off-diagonal position. Finally, we tested the model for Common Method Bias (Podsakoff, *et al.*, 2003) adopting the full-collinearity approach (Kock and Lynn, 2015); we found that the highest Internal VIF is lower of 5.

For these reasons the measurement model used in this research may be considered valid (Hair *et al*., 2016).

5.3. Structural model and hypotheses testing

In order to examine the quality of the structural model, we assessed the coefficient of determinations (R^2), the predictive relevance (Q^2) and the magnitude and significance of path coefficients (Table 5.3.1). Regarding R^2, we can see that values for all dependent variables indicate a reliable predictive power of the model. On the same page, the values of Q^2 indicates that the structural model has a satisfactory predictive relevance for the dependent variables.

Finally, we used a bootstrap procedure with 5,000 resamplings (Hair *et al*., 2016) for testing the hypothesis (see Table 5.3.4). We found support for all our hypotheses. We found support of all hypotheses of TAM model; in fact, ATT (0.295***) and PU (0.333***) significantly influence BI, PU (0.550***) and PEU (0.223**) significantly influence ATT and PEU (0.866***). Moreover, COV (-0.354***) and PRC (0.070*) significatively influence BI.

LV	ITEMS	OUTER LOADING	CR ALPHA	CR	AVE
ATT	ATT1	0.894	0.914	0.939	0.795
	ATT2	0.900			
	ATT3	0.923			
	ATT4	0.847			
BI	BI1	0.962	0.942	0.963	0.896
	BI2	0.959			
	BI3	0.919			
COV	COV1	0.898	0.866	0.918	0.789
	COV2	0.856			
	COV3	0.910			
PEU	PEU1	0.940	0.946	0.961	0.861
	PEU2	0.947			
	PEU3	0.887			
	PEU4	0.935			
PU	PU1	0.922	0.929	0.949	0.824
	PU2	0.919			
	PU3	0.922			
	PU4	0.867			

Submitted 15/12/2021 – Accepted 09/08/2022

LV	ITEMS	OUTER LOADING	CR ALPHA	CR	AVE
PRC	PRC1	0.929	0.819	0.917	0.847
	PRC2	0.911			

Table 5.3.1. Indicator reliability, construct reliability, convergent validity.

	ATT	BI	COV	PEU	PU	SOC
ATT1	0.894	0.677	-0.380	0.645	0.690	0.338
ATT2	0.900	0.651	-0.352	0.598	0.654	0.317
ATT3	0.923	0.634	-0.366	0.657	0.687	0.377
ATT4	0.847	0.549	-0.276	0.589	0.613	0.352
BI1	0.671	0.962	-0.558	0.681	0.672	0.350
BI2	0.688	0.959	-0.546	0.700	0.679	0.369
BI3	0.646	0.919	-0.583	0.605	0.630	0.396
COV2	-0.366	-0.549	0.898	-0.295	-0.284	-0.255
COV3	-0.286	-0.475	0.856	-0.250	-0.250	-0.176
COV4	-0.374	-0.554	0.910	-0.335	-0.349	-0.142
PEU1	0.660	0.656	-0.307	0.940	0.830	0.417
PEU2	0.610	0.646	-0.290	0.947	0.782	0.383
PEU3	0.673	0.666	-0.345	0.887	0.815	0.397
PEU4	0.646	0.625	-0.288	0.935	0.781	0.383
PU1	0.683	0.692	-0.368	0.805	0.922	0.372
PU2	0.667	0.596	-0.286	0.831	0.919	0.390
PU3	0.697	0.613	-0.228	0.806	0.922	0.308
PU4	0.650	0.632	-0.330	0.698	0.867	0.368
PRC1	0.362	0.380	-0.229	0.422	0.400	0.929
PRC2	0.351	0.340	-0.164	0.360	0.324	0.911

Table 5.3.2. Discriminant validity (Cross loading).

	ATT	BI	COV	PEU	PU	PRC
ATT	0.891					
BI	0.706	0.947				
COV	-0.387	-0.594	0.888			
PEU	0.699	0.700	-0.332	0.928		

pIJ/Volume 7 - Issue 2/2022 ISSN: 2499-1333

Submitted 15/12/2021 – Accepted 09/08/2022

	ATT	BI	COV	PEU	PU	PRC
PU	0.743	0.698	-0.334	0.866	0.908	
PRC	0.388	0.392	-0.215	0.427	0.395	0.920

Table 5.3.3. Discriminant validity (fornell-Larcker criteria).

Endogenous Constructs	**R^2**	**Q^2**
Attitude	0.562	0.444
Perceived Usefulness	0.749	0.614
Behavioural Intention	0.675	0.603

Hypothesis & Relation		**Original Sample**	**Sample Mean**	**Standard Deviation**	**T-Statistic**	**P-Value**
H1	ATT -> BI	0.295	0.294***	0.048	6,155	0.000
H2	COV -> BI	-0.354	-0.355***	0.029	12,399	0.000
H3	PEU -> ATT	0.223	0.222**	0.086	2,591	0.005
H4	PEU -> PU	0.866	0.866***	0.022	39,585	0.000
H5	PU -> ATT	0.550	0.551***	0.087	6,342	0.000
H6	PU -> BI	0.333	0.333***	0.046	7,224	0.000
H7	PRC-> BI	0.070	0.070*	0.032	2,214	0.013

Table 5.3.4. Hypothesis testing.

6. Discussion

6.1. Theoretical implications

This study aims to contribute to extant literature on online food delivery by extending the TAM with COVID-19 and perceived riders' condition. Our results both support and negate the previous literature. Regarding the TAM model, we support previous literature by finding that both ATT and PU significantly influence BI (Yeo *et al*., 2017; Kazancoglu and Yarimoglu, 2018; Cho *et al*., 2019; Roh and Park, 2019; Dupta and Duggal, 2020; Troise *et al*., 2020). Similarly to other scholars, we found that PU and PEU significantly influence ATT (Alagoz and Hekimoglu 2012; Lee *et al*., 2019). Similarly, and in line with the previous scholars, we found that perceived ease of use is a strong predictor of PU. The major contributions of our study are related to the constructs used to extend TAM. We propose an extension of the TAM by including COVID-19 (COV) and perceived riders' condition (PRC). Our study confirms the importance of COVID-19 pandemic in understanding online food purchasing behaviours. We found support that contextual factors influence the adoption of OFD, but differently from Zhao and Bacao (2020), we found that COVID-19 negatively influences the adoption of OFD.

Submitted 15/12/2021 – Accepted 09/08/2022

This aspect is very interesting because it represents a different result than what is stated in the literature. The result could be traced back to the greater concern of individuals with respect to health and hygiene. In particular, not following the preparation process may cause people to be unwilling to use OFD. A further motivation could be linked to the concern to get in touch with the riders. People may be worried about being infected by riders because they are people who come into contact with many people. Our results enrich previous literature showing how perceived riders' condition influences the intention to use OFD. To the best of our knowledge, no prior studies had previously analysed how PRC influences BI. Our results show that consumers think that the riders do not have adequate safeguards, and this reduces their intention to use OFD. This paper contributes to the current debate on the use of OFD and adds new interesting results on food-buying processes.

6.2. Managerial implications

This paper offers interesting results also for practitioners. We found that PEU strongly influences PU. In order to increase utility perception of online food delivery, mobile apps (Just Eat, Uber Eats, Glovo) should make the process of purchasing food online easier. For example, they could put photos of food on platforms or allow consumers to modify orders and the composition of the dish. Most importantly, we found that COVID-19 negatively influenced the intention to use food delivery. The rationale for reaching this result could be linked to the concern of the conditions under which the food is prepared and packaged or probably consumers are concerned that riders can be a vehicle for the transmission of the COVID-19. Accordingly, managers should develop new ways to reduce this negative opinion. For example, platforms may allow consumers to choose not to receive food from the riders but leave food out the door without any contact with riders. Moreover, mobile platforms may guarantee that riders are subjected to periodic checks that are not positive for COVID-19 and that they are in good health. On the same page, our data show that PRC negatively influences BI, this means that consumers are aware about riders' working conditions, acting as inhibitors to use OFD. To reduce this negative opinion mobile apps (Just Eat, Uber Eats, Glovo) can create a trade union that represents and protects interests, guaranteeing them a better pace of work and adequate remuneration.

6.3. Limits and future research directions

We focus on an Italian sample of consumers; hence, our results are mainly interesting for this context. However, future researchers may analyse factors influencing the adoption of OFD in other countries by focusing on how COVID-19 and how perceived riders' condition influence the adoption of OFD. On the same page, we focus on the social sustainability of these platforms, focusing on perceived riders' condition. Other studies may integrate the component of sustainability also with environmental components. Other methodologies and samples can be used to capture and analyse the data. Perhaps, inductive studies may investigate the online food delivery users' shopping experiences. Interpretative studies can reveal important insights on what can be improved online food delivery.

Keywords:

Submitted 15/12/2021 – Accepted 09/08/2022

online food delivery, consumer behaviour, technology acceptance model, COVID-19

References

Adnkronos (2020), "Sarzana (Deliveroo): Nel 2021 valore food delivery a 1,45 mld". Available online at https://www.adnkronos.com (last accessed: May 25, 2022).

Alagoz, S.M., and Hekimoglu, H. (2012), "A Study on TAM: Analysis of Customer Attitudes in Online Food Ordering System", *Procedia-Social and Behavioral Sciences*, 62: 1138–1143.

Barnes, S.J. (2020), "Information Management Research and Practice in the Post-COVID-19 World", *International Journal of Information Management*, 55: 102–175.

Belanche, D., Flavián, M., and Pérez-Rueda, A. (2020), "Mobile Apps Use and WOM in the Food Delivery Sector: The Role of Planned Behavior, Perceived Security and Customer Lifestyle Compatibility", *Sustainability*, 12 (10): 42–75.

Belanche, D., Casaló, L.V., Flavián, C., and Pérez-Rueda, A. (2021), "The Role of Customers in the Gig Economy: How Perceptions of Working Conditions and Service Quality Influence the Use and Recommendation of Food Delivery Services", *Service Business*, 15 (1): 45–75.

Belk, R.W. (1974), "An Exploratory Assessment of Situational Effects in Buyer Behavior", *Journal of Marketing Research*, 11 (2): 156–163.

Chin, W.W. (1998), "The Partial Least Squares Approach to Structural Equation Modeling", *Modern Methods for Business Research*, 295 (2): 295–336.

Henseler, J., Ringle, C.M., and Sinkovics, R.R. (2009), "The Use of Partial Least Squares Path Modeling in International Marketing", in R.R. Sinkovics and P.N. Ghauri (eds), *New Challenges to International Marketing*, pp. 277–319, Bingley: Emerald Group Publishing Limited.

Cho, M., Bonn, M.A., and Li, J.J. (2019), "Differences in Perceptions about Food Delivery Apps between Single-Person and Multi-Person Households", *International Journal of Hospitality Management*, 77: 108–116.

Costa Jr, P.T., and McCrae, R.R., (2008), "The Revised NEO Personality Inventory (NEO-PI-R)", in G.J. Boyle, G. Matthews, and D.H. Saklofske (eds), *The SAGE Handbook of Personality Theory and Assessment: Vol. 2 – Personality Measurement and Testing*, pp. 179–198, Thousand Oaks, CA: SAGE.

Creyer, E.H. (1997), "The Influence of Firm Behavior on Purchase Intention: Do Consumers Really Care about Business Ethics?", *Journal of Consumer Marketing*, 14 (6): 421–432.

Cummins, S., Berger, N., Cornelsen, L., Eling, J., Er, V., Greener, R., Kalbus, A., Karapici, A., Law, C., Ndlovu, D., and Yau, A. (2020), "COVID-19: Impact on the Urban Food Retail System, Diet and Health Inequalities in the UK", *Cities & Health*, 5 (S1): 119–122.

Dang, V.T., Nguyen, N., and Wang, J. (2020), "Consumers' Perceptions and Responses Towards Online Retailers' CSR", *International Journal of Retail & Distribution Management*, 48 (12): 1277–1299.

Davis, F.D. (1989), "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology", *MIS Quarterly*, 13 (3): 319–340.

Submitted 15/12/2021 – Accepted 09/08/2022

DeSimone, J.A., Harms, P.D., and DeSimone, A.J. (2015), "Best Practice Recommendations for Data Screening", *Journal of Organizational Behavior*, 36 (2): 171–181.

Dupta, V., and Duggal, S., (2020), "How the Consumer's Attitude and Behavioural Intentions Are Influenced: A Case of Online Food Delivery Applications in India", *International Journal of Culture, Tourism and Hospitality Research*, 15 (1): 77–93.

Ajzen, I., and Fishbein, M. (1975), "A Bayesian Analysis of Attribution Processes", *Psychological Bulletin*, 82 (2): 261–277.

Folkes, V.S., and Kamins, M.A. (1999), "Effects of Information about Firms' Ethical and Unethical Actions on Consumers' Attitudes", *Journal of Consumer Psychology*, 8 (3): 243–259.

Gefen, D., and Straub, D.W. (2000), "The Relative Importance of Perceived Ease of Use in Is Adoption: A Study of E-Commerce Adoption", *Journal of the Association for Information Systems*, 1 (1): 1–28.

Gillett, P.L. (1976), "In-Home Shoppers: An Overview", *Journal of Marketing*, 40 (4): 81–88.

Gwozdz, W., Nielsen, K.S., and Müller, T. (2017), "An Environmental Perspective on Clothing Consumption: Consumer Segments and Their Behavioral Patterns", *Sustainability*, 9 (5): 1–27.

Hair, J.F., Ringle, C.M., and Sarstedt, M. (2011), "PLS-SEM: Indeed a Silver Bullet", *Journal of Marketing Theory and Practice*, 19 (2): 139–152.

Hair Jr, J.F., Hult, G.T.M., Ringle, C., and Sarstedt, M. (2016), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Thousand Oaks, CA: SAGE.

Hulland, J. (1999), "Use of Partial Least Squares (PLS) in Strategic Management Research: A Review of Four Recent Studies", *Strategic Management Journal*, 20 (2): 195–204.

Joergens, C. (2006), "Ethical Fashion: Myth or Future Trend?", *Journal of Fashion Marketing and Management: An International Journal*, 10 (3): 360–371.

Kaine, S., and Josserand, E. (2019), "The Organisation and Experience of Work in the Gig Economy", *Journal of Industrial Relations*, 61 (4): 479–501.

Kapoor, A.P., and Vij, M. (2018), "Technology at the Dinner Table: Ordering Food Online through Mobile Apps", *Journal of Retailing and Consumer Services*, 43: 342–351.

Kazancoglu, I., and Yarimoglu, E.K. (2018), "How Food Retailing Changed in Turkey: Spread of Self-Service Technologies", *British Food Journal*, 120 (2): 290–308.

Keeble, M., Adams, J., Sacks, G., Vanderlee, L., White, C.M., Hammond, D., and Burgoine, T. (2020), "Use of Online Food Delivery Services to Order Food Prepared Away-From-Home and Associated Sociodemographic Characteristics: A Cross-Sectional, Multi-Country Analysis", *International Journal of Environmental Research and Public Health*, 17 (14): 51–90.

King, W.R., and He, J. (2006), "A Meta-Analysis of the Technology Acceptance Model", *Information & Management*, 43 (6): 740–755.

Kline, T.J., Sulsky, L.M., and Rever-Moriyama, S.D. (2000), "Common Method Variance and Specification Errors: A Practical Approach to Detection", *The Journal of Psychology*, 134 (4): 401–421.

Submitted 15/12/2021 – Accepted 09/08/2022

Kock, N. (2015), "Common Method Bias in PLS-SEM: A Full Collinearity Assessment Approach", *International Journal of E-Collaboration*, 11 (4): 1–10.

Kurnia, S., and Chien, J.A.W. (2003), "The Acceptance of the Online Grocery Shopping", in *Proceedings of the 16th Bled Electronic Commerce Conference*, pp. 219–233, Bled, Slovenia.

Lee, E.Y., Lee, S. B., and Jeon, Y.J.J. (2017), "Factors Influencing the Behavioral Intention to Use Food Delivery Apps", *Social Behavior and Personality: An International Journal*, 45 (9): 1461–1473.

Lee, M.C. (2009), "Factors Influencing the Adoption of Internet Banking: An Integration of TAM and TPB with Perceived Risk and Perceived Benefit", *Electronic Commerce Research and Applications*, 8 (3): 130–141.

Lee, S.W., Sung, H.J., and Jeon, H.M. (2019), "Determinants of Continuous Intention on Food Delivery Apps: Extending UTAUT2 with Information Quality", *Sustainability*, 11 (11): 31–41.

Liébana-Cabanillas, F., Marinković, V., and Kalinić, Z. (2017), "A SEM-Neural Network Approach for Predicting Antecedents of M-Commerce Acceptance", *International Journal of Information Management*, 37 (2): 14–24.

López-Nicolás, C., Molina-Castillo, F.J., and Bouwman, H. (2008), "An Assessment of Advanced Mobile Services Acceptance: Contributions from TAM and Diffusion Theory Models", *Information & Management*, 45 (6): 359–364.

Munoz-Leiva, F., Climent-Climent, S., and Liébana-Cabanillas, F. (2017), "Determinants of Intention to Use the Mobile Banking Apps: An Extension of the Classic TAM Model", *Spanish Journal of Marketing-ESIC*, 21 (1): 25–38.

Natarajan, T., Balasubramanian, S.A., and Kasilingam, D.L. (2017), "Understanding the Intention to Use Mobile Shopping Applications and Its Influence on Price Sensitivity", *Journal of Retailing and Consumer Services*, 37: 8–22.

OECD (2020a), *OECD Policy Responses to Coronavirus (COVID-19): E-commerce in the time of COVID-19*. Available online at http://www.oecd.org/coronavirus/policy-responses/e-commerce-in-the-time-ofcovid-19-3a2b78e8/ (last accessed: May 25, 2022).

OECD (2020b), *Food Supply Chains and COVID-19: Impacts and Policy Lessons – OECD Policy Responses to Coronavirus (COVID-19)*. Available online at http://www.oecd.org/coronavirus/policy-responses/food-supply-chains-and-covid-19-impacts-and-policy-lessons-71b57aea/ (last accessed: May 25, 2022).

Okumus, B., and Bilgihan, A. (2014), "Proposing a Model to Test Smartphone Users' Intention to Use Smart Applications When Ordering Food in Restaurants", *Journal of Hospitality and Tourism Technology*, 5 (1): 31–49.

Pigatto, G., Machado, J.G.D.C.F., dos Santos Negreti, A., and Machado, L.M. (2017), "Have You Chosen Your Request? Analysis of Online Food Delivery Companies in Brazil", *British Food Journal*, 119 (3): 639–657.

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., and Pahnila, S. (2004), "Consumer Acceptance of Online Banking: An Extension of the Technology Acceptance Model", *Internet Research*, 14 (3): 224–235.

Submitted 15/12/2021 – Accepted 09/08/2022

Podsakoff, N.P. (2003), "Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies", *Journal of Applied Psychology*, 885 (879): 10-879–903.

Polytechnic of Milan Observatory (2019), *Osservatorio E-Commerce B2c*. Available online at https://www.osservatori.net/it_it/osservatori/comunicati-stampa/food-grocery-online-crescitavalore-2019 (last accessed: May 25, 2022).

Quevedo-Silva, F., Freire, O., de Oliveira Lima-Filho, D., Brandão, M.M., Isabella, G., and Moreira, L.B. (2016), "Intentions to Purchase Food through the Internet: Developing and Testing a Model", *British Food Journal*, 118 (3), 572–587.

Rafique, H., Almagrabi, A.O., Shamim, A., Anwar, F., Bashir, A.K. (2020), "Investigating the Acceptance of Mobile Library Applications with an Extended Technology Acceptance Model (TAM)", *Computers & Education*, 145, 1–22. DOI: 10.1016/j.compedu.2019.103732.

Ray, A., Dhir, A., Bala, P.K., and 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.

Rezaei, S., Shahijan, M.K., Amin, M. and Ismail, W.K.W. (2016), "Determinants of App Stores Continuance Behavior: A PLS Path Modelling Approach", *Journal of Internet Commerce*, 15 (4): 408–440.

Ringle, C.M., Wende, S., and Becker, J.M. (2015), *SmartPLS 3*, Boenningstedt: SmartPLS GmbH. Available online at http://www.smartpls.com (last accessed: May 25, 2022).

Saunders, M.N., and Lewis, P. (2012), *Doing Research in Business and Management: An Essential Guide to Planning Your Project*, Harlow: Pearson.

Sen, S., and Bhattacharya, C.B. (2001), "Does Doing Good Always Lead to Doing Better? Consumer Reactions to Corporate Social Responsibility", *Journal of Marketing Research*, 38 (2): 225–243.

Stewart, A., and Stanford, J. (2017), "Regulating Work in the Gig Economy: What Are the Options?", *The Economic and Labour Relations Review*, 28 (3): 420–437.

Sundararajan, A. (2016), *The Sharing Economy: The End of Employment and the Rise of Crowd-Based Capitalism*, Cambridge, MA: MIT Press.

Tan, G.W.H., and Ooi, K.B. (2018), "Gender and Age: Do They Really Moderate Mobile Tourism Shopping Behavior?", *Telematics and Informatics*, 35 (6): 1617–1642.

Troise, C., O'Driscoll, A., Tani, M., and Prisco, A. (2020), "Online Food Delivery Services and Behavioural Intention: A Test of an Integrated TAM and TPB Framework", *British Food Journal*, 123 (2): 664–683.

Vahdat, A., Alizadeh, A., Quach, S., and Hamelin, N. (2021), "Would You Like to Shop via Mobile App Technology? The Technology Acceptance Model, Social Factors and Purchase Intention", *Australasian Marketing Journal*, 29 (2): 187–197.

Veen, A., Barratt, T., and 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.

Venkatesh, V., and Davis, F.D. (2000), "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies", *Management Science*, 46 (2): 186–2004.

Submitted 15/12/2021 – Accepted 09/08/2022

Yeo, V.C.S., Goh, S.K., and Rezaei, S. (2017), "Consumer Experiences, Attitude and Behavioral Intention toward Online Food Delivery (OFD) Services", *Journal of Retailing and Consumer Services*, 35: 150–162.

Zhao, Y., and Bacao, F. (2020), "What Factors Determining Customer Continuingly Using Food Delivery Apps during 2019 Novel Coronavirus Pandemic Period?", *International Journal of Hospitality Management*, 91: 1–12. DOI: 10.1016/j.ijhm.2020.102683.

Submitted 15/12/2021 – Accepted 09/08/2022