



Predictors of continuance intention of online food delivery services: gender as moderator

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Abstract

Purpose. The COVID-19 has brought with it valuable opportunities for the retail sector. Notably, online channels have assumed a key role for businesses that can rely less on physical channels due to the pandemic's restrictions. Within this context, the study aims to identify the main antecedents leading to the formation of the male and female customers' continuance intention of using online food delivery services (OFDS) in the restaurant industry.

Design/Methodology/Approach. A web-based self-completion survey and a subsequent structural equation modelling have been employed on a sample of 360 participants.

Findings. Findings reveal that perceived healthiness, quarantine procedures, perceived hygiene, perceived ease of app use, and attitude significantly influence continuance intention. Moreover, the moderator analysis corroborates that male consumers' continuance intention is mainly influenced by perceived healthiness, quarantine procedures, and perceived hygiene. Conversely, female customers' continuance intention is predicated on perceived healthiness and attitude.

Research limitations/implications. Although the adoption of a sample of young customers (18-29 years) guarantees good research internal validity, findings are not generalizable.

Originality. The paper is one of the first studies examining the predictors impacting on customers' OFDS continuance intention in the COVID-19 context by also focusing on gender differences.

Practical implications. The study provides valuable contributions for restaurants related to the (i) creation/management of their own OFDS platforms; (ii) selection of the right third-party platforms.

Keywords: online food delivery services, continuance intention; COVID-19; continuance intention antecedents; gender; moderator analysis

Article classification: Research paper

1. Introduction

The COVID-19 pandemic has profoundly modified retailers' practices and consumers' buying behaviours (Zulauf *et al.*, 2021), thus bringing different businesses to face complex challenges (Belarmino *et al.*, 2021).

The catering industry definitely represents one of the retail categories most affected by this crisis. Notably, restaurants have been forced to close for several months due to the different lockdown restrictions (Kumar and Shah, 2021). At once, these firms have also experienced a higher demand opportunity related to the possibility to serve their customers at home, thus delivering their products in an environment perceived by people as safer (Naeem, 2021; Roggeveen and Sethuraman, 2020). Against this background, the online food delivery services have assumed a key role, thus representing, in particular during the lockdown periods, the only connection between restaurants and their customers. Literature defines online food delivery services (OFDS) as easy and convenient tools for customers to buy food online, thus avoiding to physically go to the restaurant (Prasetyo *et al.*, 2021). Notably, they represent a combination between the traditional Food Delivery (FD) concept (i.e., orders are taken by phone to a specific restaurant and delivered by the restaurant's rider) and the advent of the digital tools (Seghezzi and Mangiaracina, 2021). Indeed, from this combination, a new business was originated, with restaurants able to expand their activity either by creating their firm-owned platforms (e.g., Restaurant-to-Consumer platforms; branded mobile apps) (Dirsehan and Cankat, 2021; Patsiotis *et al.*, 2020) or by joining to third-party ones (e.g., Platform-to-Consumers, such as Glovo and Deliveroo) (Dirsehan and Cankat, 2021; Kapoor and Vij, 2018; Petit *et al.*, 2021), which are "usually managed by independent companies that take orders from users, communicate with restaurants and carry out the food delivery activities using gig workers" (Troise *et al.*, 2021, p. 665). If before the COVID-19 crisis, European restaurants tended to use these services sporadically, with the rise of the pandemic, these businesses have been forced to massively adopt these tools in order to survive. From the customers' perspective, the COVID-19 emergency approached new clients to these services who had never ordered food at home through online delivery services or had not felt the necessity of using them (Just Eat, 2020). In particular, during 2020, the European interest toward the OFDS adoption rose by 140%, with Italy obtaining one of the best performances, equal to +180% (Reply, 2021). Moreover, the most active clients belong to the Millennials and Generation Z, while as regards gender, both men and women adopt OFDS in an almost completely balanced way (Just Eat, 2020).

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3 Overall, these data enable to corroborate that the pandemic has profoundly transformed
4 consumers' food consumption patterns by bringing people to increasingly use OFDS. This
5 attitude, together with the feelings of anxiety/fear deriving from the perceived risk of infection
6 during dinners out, has led and is leading people to opt for these services even in the stages of
7 COVID-19 restrictions' reduction. Therefore, this means that the OFDS adoption will not
8 represent only an outcome of the pandemic crisis but also a trend for years to come (Reply,
9 2021). In this respect, literature underlines the importance of identifying the main antecedents
10 of customers' intention of continuing to use OFDS during and after the COVID-19 pandemic
11 (Kartono and Tjahjadi, 2021).

12 Starting from these assumptions, the present study aims to explore the influence of different
13 antecedents on the customers' continuance intention of using OFDS. Moreover, the research
14 seeks to identify the possible role of gender as moderator. In particular, according to the extant
15 literature, gender represents a demographic feature that usually influences customers'
16 behaviours, especially for what concerns food consumption habits. Therefore, it could become
17 crucial for restaurants to create specific marketing strategies based on this variable (Hwang and
18 Kim, 2019).

19 With respect to the antecedents, the paper focuses on three areas. The first category of
20 antecedents concerns the food safety area since, in a pandemic context, the food condition
21 assumes a key role (Shim *et al.*, 2021). In this respect, perceived healthiness, perceived hygiene,
22 and quarantine procedures will be the object of the present research. The second group of
23 predictors is strictly related to the pandemic situation, and it is composed of fear of COVID-19
24 and perceived risk of eating out. Indeed, the pandemic fear has led to the online retail
25 development and, in particular, to the digital transition of food retailing (Kazancoglu and
26 Demir, 2021) through the adoption of OFDS (Belarmino *et al.*, 2021; Gavilan *et al.*, 2021). The
27 third domain regards the effective usage of the OFDS, and it is composed by the ease of app
28 use and attitude toward using OFDS.

29 Overall, by doing so, the paper offers significant theoretical and managerial contributions.
30 Theoretically, it enriches the paucity of literature focused on OFDS in the COVID-19 context
31 (Belarmino *et al.*, 2021), especially by identifying the main antecedents leading to the formation
32 of the male and female customers' intention to continue to use OFDS. Secondly, the study
33 focuses its attention on the analysis of costumers' behaviours in adopting the online
34 technologies during a health crisis, thus enriching the extant literature mainly concentrated until
35 now on other types of emergency situations (Kumar and Shah, 2021). Thirdly, it contributes to
36 the research dedicated to the analysis of the effects of the COVID-19 on the dynamics of the

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3 world of retailing (Roggeveen and Sethuraman, 2021) by specifically focusing on the catering
4 sector.
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6 At the managerial level, the paper attempts to (i) investigate how restaurants can offer value to
7 their customers through OFDS; (ii) identify the most appropriate marketing and communication
8 strategies based on gender differences.
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10 The remainder of the study is structured as follows: while Section 2 offers the literature
11 review, Section 3 presents the hypotheses development. Subsequently, Section 4 shows the
12 methodology, and Section 5 analyses the empirical results. Finally, Section 6 concludes the
13 study by debating the theoretical and managerial implications, limitations, and directions for
14 future research.
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20 21 22 **2. Literature review** 23

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25 This section first discusses the continuance intention conceptualization and its main antecedents
26 previously analysed by both the general literature and that focused on the OFDS industry. The
27 second part focuses its attention on the identification of the antecedents investigated in the
28 present contribution (i.e., perceived healthiness, perceived hygiene, quarantine, fear of COVID-
29 19, perceived risk of eating out, ease of app use, and attitude), along with the motivations that
30 led to select them and their conceptualization.
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36 37 38 *2.1 Continuance intention and its antecedents in the OFDS context* 39

40 Continuance intention represents a positive post-use behaviour (Okazaki *et al.*, 2020), and it
41 can be defined as the individuals' intention to continue using/buying a brand, product, or service
42 after its initial acceptance (Kumar and Shah, 2021). Notably, research has focused its attention
43 on this variable, especially by analysing its antecedents in specific sectors such as sharing
44 services (e.g., Eugene Cheng-Xi *et al.*, 2018), mobile and social apps/services (e.g., Qing and
45 Haiying, 2021), internet banking (e.g., Rahi and Ghani, 2019), video-games and entertainment
46 (e.g., Patzer *et al.*, 2020), cloud and information systems (e.g., Cheng, 2020), crowdsourcing
47 platforms (e.g., Wang and Wang, 2019), e-government services (e.g., Puthur *et al.*, 2020),
48 financial services (e.g., Zhou *et al.*, 2018), education and e-learning platforms (e.g., Daneji *et*
49 *al.*, 2019), and online shopping (e.g., Luo and Ye, 2019).
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56 By specifically focusing on the OFDS sector, some studies have analysed the continuance
57 intention antecedents in the context of the COVID-19 pandemic. In particular, Jun *et al.* (2022)
58 detect how perceived usefulness, enjoyment, trust, and customer attitude affect OFDS
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3 continuance intention. Moreover, Troise et al. (2021) hypothesize how attitude, perceived
4 usefulness, perceived behaviour control, subjective norms, and trust in online food delivery
5 services influence customers' intention to use them. In their contribution, Hong et al. (2021)
6 identify how perceived usefulness represents the most influential factor affecting customer
7 intention to use OFDS during the COVID-19 pandemic.
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11 In the present study, the following antecedents will be analysed: perceived healthiness,
12 perceived hygiene, quarantine, fear of COVID-19, perceived risk of eating out, ease of app use,
13 and attitude.
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17 More in detail, perceived healthiness, perceived hygiene, and quarantine have been chosen
18 since they represent three variables strictly related to the food safety topic: an area that assumes
19 a key role in a pandemic context (Shim *et al.*, 2021). Conceptually, while healthiness can be
20 defined as how the offered products are useful in promoting consumers' health, hygiene can be
21 conceptualized as "how consumers perceive the product in terms of being clean and safe" (Shim
22 *et al.*, 2021, p. 13). For what concerns quarantine, during the COVID-19 pandemic, it has
23 assumed a key role, especially in the foodservice industry. Notably, quarantine can be defined
24 as how an activity or a service manages the quarantine procedure in order to protect customers'
25 health against COVID-19 (Shim *et al.*, 2021).
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33 With regards to the second group of predictors (i.e., fear of COVID-19 and perceived risk of
34 eating out), we selected them because they are specifically related to the current pandemic
35 situation. In particular, at international level, the COVID-19 crisis has provoked multiple
36 consequences. Between them, the formation of feelings of fears, among people, represents one
37 of the most diffused (Erjavec and Manfreda, 2021; Halan, 2021). Conceptually, Jian et al.
38 (2020) define fear of COVID-19 as a negative emotion composed by anxiety and depression
39 which derive from the awareness of the potential consequences of the virus. By specifically
40 focusing on the influence of fear of COVID-19 on the OFDS use, research highlights the
41 importance of extending the examination of this variable on the customers' food consumption
42 habits, behaviours, and decision-process (Gavilan *et al.*, 2021). Indeed, in crisis' periods,
43 individuals tend to manifest specific types of behaviours (i.e., panic-buying ones) as a natural
44 consequence of fear and uncertainty (Kazancoglu and Demir, 2021; Prentice *et al.*, 2020).
45 Another driver impacting on consumers' behaviours and intentions is represented by their
46 perceived risk (Halan, 2021; Rather, 2021). With reference to OFDS, the perceived risk of
47 eating out has brought people to choose more and more often them since they represent services
48 able to "shift consumption to safer, more controlled environments, such as the home" (Gavilan
49 *et al.*, 2021, p. 2).
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3 Finally, ease of app use and attitude toward using OFDS belong to the third group of variables.
4 Firstly, perceived ease of use can be defined as “the degree to which a person believes that
5 using a technology will be effortless” (Castillo and Bigne, 2021, p. 879). By specifically
6 focusing on the impact of ease of technology, and in particular mobile apps and services, on the
7 customers’ behaviours and intention, literature has widely investigated this connection in
8 different sectors (Alt *et al.*, 2021; Bhatt, 2021; Mew and Millan, 2021; Shim *et al.*, 2021; Van
9 Dolen *et al.*, 2007; Wiese and Humbani, 2020; Zhu *et al.*, 2021), with the majority of findings
10 corroborating a positive impact of ease of use on continuance intention (Assimakopoulos *et al.*,
11 2017; Demoulin and Djelassi, 2016; Thomas-Francois and Somogyi, 2021). Secondly, attitude
12 can be defined as the way in which an individual feels about and is predisposed towards a
13 certain object, idea, product, or service (Liaw, 2002). By concentrating on the impact of attitude
14 on continuance intention, research underlines how attitude represents a key contributing factor
15 for continuance intention (Kartono and Tjahiadi, 2021) since an individual showing a positive
16 attitude toward a product/service will be more likely to continue using it (Yeo *et al.*, 2017).
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29 **3. Hypotheses development**

30 *3.1 Perceived healthiness, hygiene, and quarantine procedures*

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33 By strongly influencing health conditions, both perceived healthiness and perceived hygiene
34 assume a key role in the formation of individuals’ decision making (Shim *et al.*, 2021). In this
35 respect, several studies analysed the impact of food safety on consumers’ decision making
36 (Shim *et al.*, 2021).
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40 Focusing on healthiness, Kim *et al.* (2013) find that perceived food healthiness, by increasing
41 customers’ satisfaction, impacts on costumers’ revisit intention toward restaurants. More
42 recently, while Medina-Molina and Pérez-González (2020) analyse the relationship between
43 perceived healthiness and repurchase intention in the context of nutritional labelling, Shim *et*
44 *al.* (2021) investigate the positive impact of products’ healthiness on customers’ purchase
45 intention in coffee services.
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51 Starting from these previous studies, it could be hypothesized an equivalent relationship in the
52 OFDS context, thus assuming that the products’ perceived healthiness, offered by an OFDS,
53 can have a positive impact on the customers’ intention to continue to use it. Therefore, the first
54 hypothesis has been formulated:
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H1. Perceived healthiness leads to continuance intention.

As regards hygiene, literature underlines how, especially during the COVID-19 pandemic, customers have become increasingly attentive to the social distancing and hygiene (Kazancogly and Demir, 2021) since they are particularly concerned about the risk of having a contact with contaminated food or infected delivery personnel. In this respect, OFDS guarantee different sanitation procedures such as safety and hygiene measures in food processing, handling, and delivery, the adoption of contactless delivery, and electronically payments (Al Amin *et al.*, 2021).

From an empirical perspective, Al Amin *et al.* (2021) corroborate the positive impact of food delivery hygiene on the continuance intention to use mobile food delivery applications during COVID-19 pandemic. Moreover, Shim *et al.* (2021) find a positive relationship between hygiene and customers' purchase intention in coffee services.

Based on these previous results, it could be assumed a positive impact of customers' perceived hygiene concerning the OFDS on their continuance intention of using it. Thus:

H2. Perceived hygiene leads to continuance intention.

Moreover, with the advent of the COVID-19 pandemic, social life behaviours have profoundly changed by especially influencing eating-out habits (Shim *et al.*, 2021). In particular, people have become ever more worried about the risk of being infected during eating and talking moments. Therefore, quarantine procedures have currently assumed a crucial role in the formation of customers' satisfaction, especially in the context of the foodservice industry.

However, despite the relevance of these measures, just one study (Shim *et al.*, 2021) has analysed the impact of quarantine on consumers' food behaviour and decision making in coffee services, thus hypothesizing a positive impact of quarantine procedures on customers' purchase intention. Starting from this study, we could assume a similar result in the OFDS context by proposing the following hypothesis:

H3. Quarantine procedures lead to continuance intention.

3.2 Fear of COVID-19 and perceived risk of eating out during COVID-19

According to the extant research, fear of COVID-19 and perceived risk of eating out have brought individuals to assume new habits, behaviours, and intentions (Halan, 2021; Rather, 2021; Tran, 2021), such as the inclination to prefer smaller networks of friends, more time spent at home, and the growing use of OFDS. Consequently, these services have become ever more

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3 popular and adopted by consumers as the main substitute for dining out (Al Amin *et al.*, 2020;
4 Belarmino *et al.*, 2021).

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6 Starting from these assumptions and from the fact that, generally, the customers' adoption and
7 experience with a product/service can lead them to continue to adopt it (Chen and Yang, 2021),
8 it could be assumed a positive impact of fear of COVID-19 and perceived risk of eating out
9 during COVID-19 on customers' intention of continuing to use OFDS.
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15 Thus:

16 **H4.** Fear of COVID-19 leads to continuance intention.

17 **H5.** Perceived risk of eating out leads to continuance intention.
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22 *3.3 Perceived ease of app use and attitude toward using OFDS*

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25 By specifically focusing on the OFDS context, some studies have analysed the influence of
26 perceived ease of app use on customers' continuance intention. In particular, Fakfar (2021)
27 corroborates that the ease of food delivery applications leads to customers' satisfaction which,
28 in turn, brings to their intention to re-use the service. In their study, Zhuang *et al.* (2021) identify
29 a positive relationship between ease to use food delivery apps and overall service quality,
30 customer satisfaction, and continuance intention. Similarly, Choi (2020) finds a positive impact
31 of perceived ease of food delivery app use on customers' satisfaction with the delivery service
32 which, in turn, leads to reuse intention.
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38 Starting from these previous studies, it could be assumed a positive impact of perceived ease of
39 OFDS apps use on customers' intention of continuing to use these services. Therefore, the
40 following hypothesis has been postulated:
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45 **H6.** Perceived ease of app use leads to continuance intention.
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48 For what concerns the impact of attitude toward using OFDS on continuance intention, research
49 confirms this relationship also in the context of COVID-19 (Zhu *et al.*, 2021). However, the
50 majority of it has analysed this connection in other sectors such as mobile health applications
51 (e.g., Birkmeyer *et al.*, 2021), web-based videoconferencing and online learning (e.g., Mo *et*
52 *al.*, 2021), and cruise services (e.g., Pan *et al.*, 2021).
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57 By specifically focusing on OFDS, Al Amin *et al.* (2021) and Troise *et al.* (2021) corroborate
58 a positive influence of the consumers' attitude toward using online delivery services on their
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intention to continue to adopt them. Based on these previous studies, we formulated the last hypothesis:

H7. Attitude toward using OFDS leads to continuance intention.

3.4 The moderating influence of gender

Extant literature corroborates that the consumption habits and intentions are particularly affected by demographic features, especially the gender one (Faqih and Jaradat, 2015). In particular, marketing research has deeply analysed the role of gender as a social construct able to significantly influence customers' behaviours. More in detail, several studies have analysed the moderator role of gender in influencing consumer habits in different service contexts such as the tourism (e.g., Iranmanesh *et al.*, 2018), financial and banking (e.g., Zhao *et al.*, 2018), mobile (e.g., Leon, 2018), retail (e.g., Powers *et al.*, 2018), cloud and web (e.g., Tschla *et al.*, 2016).

By focusing on the OFDS, some studies have analysed the influence of gender on customers' behaviours and intentions. Notably, by focusing on green consumption, Hwang and Kim (2019) find that gender moderates the relationship between customers' attitude toward using drone food delivery services and word-of-mouth intentions. In particular, the path coefficient for the male group has been found to be higher than for the female one. Similarly, Hwang *et al.* (2019) detect how gender moderates the relationship between (i) product innovativeness and intention to use and (ii) attitude toward using drone food delivery services and word-of-mouth intentions. More in detail, both path coefficients for the female group have proved to be greater than for the male group.

With regards to the COVID-19 context, Ali *et al.* (2021) find that the effect of optimism, innovativeness, adoption intention, and situation influences (COVID-19) on customers' intention to use OFDS is stronger for males with respect to females. Conversely, the negative influence of insecurity and discomfort is stronger for the female group than the male one.

In their study, Hwang and Kim (2021) corroborate the moderating role of gender in the relationship between desire and behavioural intentions in the context of drone food delivery services. More specifically, the path coefficient for the male group turned out to be higher than the female group's one.

Starting from these previous researches and from the fact that the perception of a service can vary according to gender (Hwang and Kim, 2021), in the present study, its influence on the relationship between the proposed determinants and continuance intention will be examined.

Thus, the following research question has been formulated:

RQ1. Does gender moderate the influence of the proposed determinants on continuance intention?

Figure 1 depicts the overall model under investigation.

[Figure 1 near here]

4. Methodology

Data have been collected from 360 university students through the adoption of a web-based self-completion survey. Based on the fact that (i) young people tend to shop online more than other age groups (Lubis, 2018); (ii) the most active customers of OFDS belong to young segments (Just Eat, 2020; Tech, 2020), this specific target has been selected for the analysis. More in detail, young people are defined to be under 29 years old¹. Therefore, Italian university students have been chosen since they are viewed as representative of people under 30 years old (Savelli *et al.*, 2019).

The translation-back-translation method was employed to carry out the survey in the Italian language. Then, a professional platform for surveys (Google Form) has been adopted for the survey administration.

In particular, in the first part of the survey, participants were asked to indicate a specific OFDS brand they had used during the pandemic period. From that point on, participants were requested to respond to each question, always thinking about that specific service brand they mentioned before.

Moreover, in order to avoid potential biases, several recommendations of MacKenzie and Podsakof (2012) have been adopted. Firstly, to minimize social desirability bias, the complete anonymity and confidentiality of responses have been guaranteed through a declaration inserted in the introductory part of the online survey. Secondly, respondents have been assured that there are no right or wrong responses and that they could have dissimilar opinions about the investigated topics. Finally, in the introductory part, it has been anticipated to the participants to avoid any potential disturbance factors since some of the questions were personal.

¹ Eurostat, <https://ec.europa.eu/eurostat/web/youth>

Overall, after eliminating incomplete responses and discarding respondents with a uniform response style (Völckner *et al.*, 2010), we ended up with 360 valid responses. The sample constituted of 34% male respondents and 66% female respondents between 18 - 29 years. With a total of 360 respondents, the sample is above the rule of 200 and the sample to item ratio is 12.4, which is higher than the acceptable ratio of 5:1 (Gorsuch, 1983). Thus, an adequate sample size is achieved. Kaiser-Meyer-Olkin (KMO) as well as Bartlett's Test of Sphericity to measure sampling adequacy are calculated. KMO is .873 ($>$ than .5) and Bartlett's Test of Sphericity is significant at .000 (below $p < .05$), therefore, both values are over the threshold and the data is suitable for factor analysis.

For the operationalization of the constructs, we employed existing and empirically validated scales. Survey respondents were asked to indicate their level of agreement for each of the items using a seven-point Likert scale, anchored by totally disagree (1) to totally agree (7). Appendix contains the complete list of the items, Cronbach's alpha for each scale, and the source adopted for each construct.

5. Results

5.1. Validity and Reliability Tests

Several analyses were conducted to test our model. Exploratory factor analysis, confirmatory factor analysis, and structural equation modelling are used to address the hypotheses. Employing principal factor analysis showed that items measuring fear of COVID-19 and perceived risk of eating out during COVID-19 loaded on a common factor. Therefore, the two constructs were combined to one named "fear & risk of COVID". Items belonging to the constructs hygiene and quarantine also loaded on a common factor. Thus, we combined them to a single factor named "hygiene & quarantine". Overall, the six resulting factors explain 75.5% cumulative variance. None of the 29 items had significant cross-loadings ($> .50$). All scales are reliable with Cronbach's alpha values higher than .8 (see Appendix).

The constructs' convergent and discriminant validity was assessed through a confirmatory factor analysis. Average variance extracted (AVE) and composite reliability (CR) form convergent validity. To obtain convergent and discriminant validity, the AVE should be $> .40$ (Floyd and Widaman, 1995) and the CR $> .60$ (Bagozzi and Yi, 1988). AVE values are between .56 (fear & risk of COVID) and .85 (ease of app use) and CR values range between .88 (healthiness) and .94 (ease of app use). Thus, all AVE and CR values are acceptable.

Discriminant validity is established by comparing AVE values need with the squared inter-construct correlation estimates (SIC). Details for means and standard deviations of the constructs, as well as AVE, CR, and SIC values, are displayed in Table I.

We also tested for significant differences between women and men on our variables in the model. Only one significant difference is found for fear and risk of COVID-19 ($t(357) = 7.05$, $p < .001$). Women ($m=3.98$; $SD=1.39$) have a higher fear and risk perception of COVID-19 than men ($m=2.94$; $SD=1.28$).

[Table I near here]

5.2. Fit of the measurement model

The measurement model was tested to determine its fit to the research data. Test of the fit of the measurement model (for male and female consumers) indicates that the measurement model has an acceptable fit ($\chi^2 = 1362.37$; $df = 702$; $p < .001$; $\chi^2/df = 1.94$; $CFI = .93$; $IFI = .93$; $TLI = .92$; $RMSEA = .051$). Hence, our measurement model possesses configural invariance.

For a meaningful comparison of the model for both male and female consumers, the instrument measuring the various constructs must possess cross-gender equivalence. To meet the requirement of equivalence, configural and, at least partial, metric or scalar invariances must be confirmed to compare the findings for the two groups of consumers (Hair *et al.*, 2006; Vandenberg and Lance, 2000; Steenkamp and Baumgartner, 1998).

Metric invariance was tested by means of multiple-group SEM. For the model there is no significant difference in χ^2 between the free and the restricted model (i.e. factor loadings restricted to being equal across genders). Thus, metric invariance can be assumed.

5.3. Test of the model

By looking at the equality of structural weights, the significance of the overall difference in the factors influencing continuance intention of using a delivery service of both male and female consumers was determined. The path coefficients, as well as the results of testing the change in fit as a consequence of constraining each structural weight to be equal across genders, are reported in Table II.

[Table II near here]

Overall, our model shows that perceived healthiness ($\beta = .23, p < .001$), quarantine and perceived hygiene ($\beta = .15, p = .034$), ease of app use ($\beta = .17, p = .001$), and attitude ($\beta = .26, p < .001$) have a significant effect on continuance intention, while fear and risk of COVID-19 ($\beta = .09, p = .067$) is not significant at 0.05 level, but at 0.10 level, thus, our hypotheses are confirmed.

The moderator analysis reveals that male consumers' continuance intention is influenced by perceived healthiness ($\beta = .26, p = .019$), quarantine and perceived hygiene ($\beta = .21, p = .008$), and perceived ease of app usage ($\beta = .26, p = .005$). Fear and risk perception ($\beta = .11, p = .190$) and attitude ($\beta = .15, p = .114$) play a minor role. While among female consumers, their continuance intention is predicated on the following factors: perceived healthiness ($\beta = .21, p = .005$), attitude ($\beta = .26, p < .001$), and to a minor extent, ease of app usage ($\beta = .13, p = .043$). Quarantine and perceived hygiene ($\beta = .11, p = .177$) as well as fear and risk of COVID-19 ($\beta = .09, p = .131$) have no influence on the continuance intention of female customers. The χ^2 difference test shows that none of the differences though is significant. The final results are displayed in Figure 2.

[Figure 2 near here]

5.4 Discussion of the results

Overall, results identified (i) a significant impact of perceived healthiness, quarantine procedures, perceived hygiene, perceived ease of app use, and attitude on continuance intention; (ii) a significant influence at 0.10 level of fear of COVID-19 and perceived risk on continuance intention.

More in detail, with regards to perceived healthiness, findings allow to detect how the products' perceived healthiness, offered by an OFDS, has a positive influence on the customers' intention to continue to use it. In this respect, the results confirm the existing research analysing the significant impact of perceived healthiness on consumers' decision making (Kim *et al.*, 2013; Medina-Molina and Pérez-González, 2020; Shim *et al.*, 2021).

Moreover, findings identify a positive influence of quarantine procedures and perceived hygiene on continuance intention, thus highlighting how these predictors assume a key role in the formation of customers' intentions to continue using OFDS during the pandemic crisis. Therefore, this result corroborates previous studies underlying the impact of hygiene and quarantine procedures on customers' behaviours, especially in the delivery food sector (Al Amin *et al.*, 2021; Shim *et al.*, 2021).

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3 For what concerns the influence of fear of COVID-19 and perceived risk, the study confirms
4 the impact (even if marginal) of these antecedents on the continuance intention, thus
5 corroborating that the feelings of anxiety and fear provoked by the pandemic context, along
6 with the perceived risk of contracting the virus during dinners out, have brought individuals to
7 make greater use of OFDS (Halan, 2021; Rather 2021; Tran, 2021) by consequently leading
8 them to continue to adopt these services in the future.

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10 Regarding the perceived ease of app use, results confirm previous studies (Choi, 2020; Fakfare,
11 2021; Zhuang *et al.*, 2021), thus detecting that the perceived easiness of apps can have a positive
12 impact on customers' intention to use them in the future.

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14 Furthermore, results confirm extant researches underlying the key role of attitude as an
15 antecedent of customers' continuance intention (Hamari, 2015), especially in the OFDS sector
16 (Kartono and Tjahjadi, 2021; Yeo *et al.*, 2017). By specifically focusing on the COVID-19
17 context, the present study corroborates that the individuals' formation of a positive attitude
18 toward OFDS (potentially enhanced by the customers' feelings of fear and risk related to the
19 health crisis) can lead to a more robust intention to continue using them during and after the
20 pandemic situation.

21
22 Finally, for what concerns the moderator analysis, findings reveal that the male consumers'
23 intention is affected by perceived healthiness, quarantine procedures, perceived hygiene, and
24 perceived ease of app usage, while fear, risk perception, and attitude play a minor role.

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26 Conversely, regarding female consumers, perceived healthiness, attitude, and to a minor extent,
27 perceived ease of app usage represent the antecedents influencing their continuance intention.

28
29 Overall, the perceived healthiness represents, for both men and women, a significant antecedent
30 of their continuance intention. Conversely, an unexpected result concerns the greater
31 significance of perceived hygiene and quarantine procedures on male consumers' continuance
32 intention than on female one. Indeed, previous studies (e.g., Untaru and Han, 2021) have
33 identified how women tend to be more attentive to public health and hygiene measures with
34 respect to men. A possible explanation could lie in the fact that, in Europe, the COVID-19 has
35 affected men more than women (Ahrenfeldt *et al.*, 2021). Therefore, this could have led men to
36 have a greater fear related to the contagion by consequently increasing their attention toward
37 hygiene and quarantine measures.

38
39 The last remarkable difference concerns the attitude factor, which is much more significant for
40 women than for men. Therefore, this result allows to confirm how women tend to be more
41 routine-seeking than men in their food consumption habits in the context of COVID-19.

6. Implications, limitations, and future research

6.1 Theoretical implications

The paper provides different theoretical contributions. Firstly, it enriches the paucity of research focused on the OFDS in the context of COVID-19. Indeed, since the numbers of OFDS users and the time spent on those platforms have significantly augmented, it has become crucial to analyse the main factors bringing customers to use OFDS during the crisis (Belarmino *et al.*, 2021). In this way, the paper seeks to respond to the following calls of the literature related to (i) the analysis of the main antecedents leading to the customers' intention to continue using OFDS (Kartono and Tjahjadi, 2021); (ii) the identification of the ways in which restaurants can offer value to consumers through delivery services (Belarmino *et al.*, 2021; Gunden *et al.*, 2020).

Secondly, the study provides a novelty by analysing the moderating role of gender in the relationship between the proposed determinants and continuance intention.

Thirdly, by investigating the main predictors determining the young consumers' continuance intention of OFDS in the COVID-19 context, the paper enhances the study of the attitudes and behaviours of a specific segment (i.e., people aged between 18-29 years) in using the online technologies during a health crisis, thus strengthening the extant research mainly focused on other typologies of crisis situations (Kumar and Shah, 2021).

Finally, it focuses its attention on a retail category that has particularly suffered the pandemic's effects, thus deepening the researches dedicated to the study of the COVID-19's influence on the retailing world's dynamics (Roggeveen and Sethurman, 2021). More in detail, as stated by the literature (Kazancoglu and Demir, 2021), digital media could assume a key role in facing the negative consequences of the virus. Consequently, retailer stores need to empower, in the long term, their online delivery services since consumers could massively adopt them even when the crisis will be over. Within this scenario, the further contribution of the paper is to investigate the influence of specific antecedents (i.e., perceived healthiness, quarantine and perceived hygiene, ease of app use, fear and risk of COVID-19, and attitude) on the formation of the male and female OFDS's continuance intention in the context of online retailing during the COVID-19 pandemic. This allowed identifying the main predictors restaurants should focus on in order to enhance the customers' intention to continue to buy from them through the online delivery services.

6.2 Managerial implications

The paper investigates a very interesting retail business since the catering sector represents one of the industries most influenced by the COVID-19 crisis. In particular, the study offers a practical understanding related to the possible strategies adoptable by restaurants mainly targeting to customers between 18 and 29 years old in order to strengthen their young customers' intention to continue to buy from them by using the online delivery services. More in detail, by identifying the main antecedents leading young customers to continue to adopt OFDS, the study allows to identify how restaurant managers can (i) improve their marketing strategies concerning their own OFDS; (ii) select the right third-party platforms based on the presence/absence of the identified predictors.

Starting from the fact that perceived healthiness, perceived hygiene and quarantine, fear and risk of COVID-19, perceived ease of app use, and attitude toward using OFDS turned out to have an influence on continuance intention, all these aspects should be particularly managed.

For what concerns perceived healthiness, it could be important to select a third-party platform or create an own platform able to communicate the healthy menus offered by the restaurant (e.g., light food options, fresh and organic ingredients, complete information sheets concerning food/nutrition details, such as ingredients, calories, allergens).

With regards to perceived hygiene and quarantine procedures, also in this case, all the sanitation measures should be communicated to the customers (e.g., guidelines concerning food preparation, details concerning the safety of the packaging and delivery process, information related to the quarantine procedures adopted in the kitchens). Indeed, literature corroborates that individuals are becoming more and more interested in marketing messages based on both safety and hygiene-centric language; therefore, it becomes fundamental to prioritize consumers' safety urges (Kazancoglu and Demir, 2021). In particular, ever more retailers are adopting automated delivery tools in order to minimize human contacts (Shankar *et al.*, 2021) and ensure high levels of hygiene. For instance, Domino's Pizza has adopted the touchless transfer which is a retail technology allowing to avoid that food is touched by a human, "from the moment it goes into the oven until it is delivered to the customer's doorstep" (Roggeveen and Sethuraman, 2020, p. 303).

With respect to the impact of fear of COVID-19 and perceived risk on continuance intention, it becomes crucial to create advertising contents (conveyed through traditional and social media tools) that leverage the feelings of fear related to the virus by also underlining how the OFDS can solve these concerns through careful sanitization processes and the possibility of eating in

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3 safer places such as one's home environment. Indeed, research underlines how many consumers
4 will be, also in the future, cautious of being in enclosed places until the COVID-19 pandemic
5 is completely over (Rosenbaum *et al.*, 2020). For instance, on the social media channels,
6 messages could be created based on the model of emotional contents by adopting the following
7 scheme: (i) activate the users' attention through the creation of an anxious message; (ii) raise
8 their emotional tension; (iii) suggest how the service could eliminate these emotions of fear.

9
10 Moreover, it will be fundamental to provide or rely on easy and user-friendly online ordering
11 systems, as well as on both efficient and effective smartphone applications. In this way, it could
12 be possible to reduce possible users' inconvenience and complaints (Schüler *et al.*, 2020).
13 Indeed, apps characterized by a complex use could not only discourage customers from re-using
14 them but can also lead to negative outcomes such as customers' hate toward the delivery service
15 or the service abandonment with the consequent search for competitor ones.

16
17 Concerning attitude, it becomes fundamental to maintain a positive customers' attitude toward
18 using OFDS over time. In order to reach this objective, restaurants managers should focus their
19 attention on all those strategies aimed at transforming young customers into loyal ones, such as
20 the possibility of obtaining (i) loyalty points; (ii) price discounts; (iii) quantity discounts; (iv)
21 group discounts; (v) friends-and-family discounts; (vi) loyalty schemes.

22
23 Furthermore, the study allows to confirm how gender represents a key factor explaining young
24 customers' intentions in the OFDS context, thus underlying the relevance of conducting a
25 marketing segmentation. Notably, the creation of a customer database according to gender can
26 help restaurant firms in managing their potential customers efficiently (Hwang and Kim, 2019).
27 In this respect, restaurants can realize specific marketing strategies respectively directed to their
28 male and female customers, thus increasing their level of satisfaction. For instance, concerning
29 the communication policies, results have allowed to identify the most suitable types of content
30 to be addressed respectively to male (e.g., healthy menus, quarantine and hygiene measures,
31 details related to the ease with which to use the delivery service) and female (e.g., healthy
32 menus, loyalty programs, friends-and-family discounts) young costumers, thus improving the
33 overall online and offline advertising efficiency.

34
35 Managerially, the execution of all these strategies needs the recruitment and training of
36 employees with specialized skills, which will vary if the restaurant creates its own platform or
37 relies on third-party platforms. More in detail, in the creation and management of a Restaurant-
38 to-Consumer platform, the most important skills will be: (i) app skills: related to the creation,
39 management, and technical support of the online delivery app; (ii) delivery skills: on the one
40 hand, delivery employees should focus special attention on the delivery process precision,

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3 speed, and safety, especially for what concerns all the COVID-19 precautions; on the other
4 hand, managers should ensure that these drivers follow exactly all the protocols approved by
5 the restaurant; (iii) traditional and digital marketing skills such as buyer personas' creation,
6 social media segmentation, content marketing. Conversely, if the restaurant opts for a third-
7 party platform, the most important skills fall within the marketing field. In particular, it will be
8 necessary to (i) conduct an in-depth evaluation of the platforms to join; (ii) realize a careful
9 targeting analysis of the most suitable platform/s also based on the antecedents identified in the
10 present study.

11
12 Besides the firms' perspective, this study also highlights the OFDS impact on the customers'
13 quality of life. More in detail, considering that healthiness and hygiene represent, for customers,
14 significant antecedents of their intention to continue using OFDS, this could mean that
15 restaurants, by offering healthy menus with particular attention to hygiene and sanitation, could
16 make a considerable improvement in food style and safety for consumers. In this way, online
17 food ordering could significantly influence the citizens' well-being. Moreover, results also
18 underline the relevance of the ease of app use. This OFDS feature could be relevant, to the
19 customers' quality of life, in different ways. Firstly, an easy app can reduce customers' stress
20 by allowing them to better manage their time (Saad, 2021). Secondly, the digital payment
21 (usually included between the app's features) enables people to avoid going out specifically to
22 withdraw money, thus reducing city traffic. Indeed, literature (Peng, 2019) detects how online
23 shopping, and consequently OFDS, are more traffic-friendly with respect to the offline options
24 since they reduce the movement of people as they await delivery directly to their homes.
25 Overall, this translates into a reduction in city traffic and a consequent improvement in air
26 quality (Saad, 2021).

27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 *6.3 Limitations and future research*

46
47 The study presents some limitations. Firstly, the sample is composed of Italian university
48 students. Therefore, it would be worthwhile to investigate if the proposed conceptual model
49 could be applied to other target groups and geographical contexts, thus detecting possible
50 similarities/differences in the OFDS continuance intention's antecedents in the COVID-19
51 context. More in detail, although the choice of adopting a sample composed of young
52 consumers (18-29 years old) has allowed identifying habits, attitudes, and purchase intentions
53 characterizing a specific segment, thus providing valuable managerial implications, the findings
54 are not generalizable to other population groups (e.g., more mature segments). In addition, the
55 sample presents an imbalance for what concerns the gender distribution (34% men; 66%
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women). Even if this imbalance reflects the Italian situation since the majority of students enrolled in a degree course are currently women (Ministero dell'Università e della Ricerca)², in future research, it might be interesting to select another sample (different from Italian students) in order to possibly reduce this gap.

Secondly, the study adopts the translation-back-translation method, which could bring some potential limits, such as the difficulty in controlling the items' cultural adaptation (Iliescu, 2017).

Thirdly, the paper analyses the OFDS in general without differentiating between Restaurant-To-Consumers platforms and third-party ones. Thus, it could be interesting to compare, in future works, these different typologies of platforms.

Moreover, since the research focused its attention on the customers' continuance intention instead of effective behaviours, in the future, the conceptual model could be extended by adding other variables such as buying behaviour (e.g., compulsive buying behaviour, exploratory buying behaviour).

Furthermore, given that the paper has been created during a specific timeframe (COVID-19 pandemic), future studies can realize a longitudinal analysis to investigate customers' perceptions in different time periods (e.g., during vs. after COVID-19).

Additionally, since we have specifically analysed the continuance intention's antecedents, it could be valuable to investigate in future researches its main outcomes (e.g., customers' feelings of addiction/love toward the restaurants' brands).

Finally, the OFDS adoption and continuance intention have been investigated in a particular crisis' typology (i.e., health and safety crisis). Therefore, it could be interesting to realize, in future studies, experimental analysis for examining the consumers' intention in multiple crisis situations, such as economic crises (Kumar and Shah, 2021).

² <http://ustat.miur.it/dati/didattica/italia/atenei>

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45 *and Consumer Research*, pp. 1-25.

APPENDIX. Construct Operationalization

Constructs	Cronbach α	Main sources
Fear of COVID-19 I am afraid of the coronavirus. It makes me uncomfortable to think about the coronavirus. I am afraid of losing my life because of the coronavirus. When watching news and stories about the coronavirus on social media, I become nervous or anxious.	.907	Jian <i>et al.</i> (2020); Adaptation from Rather (2021)
Perceived risk of eating out during COVID-19 In the current situation, I prefer to avoid eating out. I feel more averse to eating out due to the risk from the Covid-19 epidemic. In the current situation, I prefer to shorten the duration of my potential trips outside the home.		
Perceived hygiene The products of brand X* are hygienic. The products of brand X are clean to consume. Sanitation of brand X goods is well managed. Brand X food is clean and hygienic to consume.	.938	Adaptation from Shim <i>et al.</i> (2021)
Quarantine Brand X is good at COVID 19 quarantine. Brand X keeps COVID 19 quarantine well. Brand X employees perform well for COVID 19 quarantine. COVID 19 quarantine is well implemented at brand X.		
Perceived healthiness The products of brand X are healthy. The products of brand X improve my health condition. Brand X offers health concerning products. The products of brand X contain low calories.	.879	Adaptation from Shim <i>et al.</i> (2021)
Attitude toward using delivery services Using delivery services is useful during the current situation. It is valuable to use delivery services during the current situation. Using delivery services is beneficial during the current situation. Using delivery services is attractive during the current situation.	.926	Adaptation from Rather (2021)
Perceived ease of app use It is not complex to use the brand X app. Brand X provides an easy app system to use. It is straightforward to use the brand X app.	.940	Adaptation from Shim <i>et al.</i> (2021)
Continuance intention after COVID-19 I will use brand X on a regular basis in the future. I will frequently use brand X in the future. I strongly recommend that others use brand X.	.888	Adaptation from Li and Fang (2019)

* Brand X stands for the OFDS brand used/experienced by the interviewed during the pandemic.

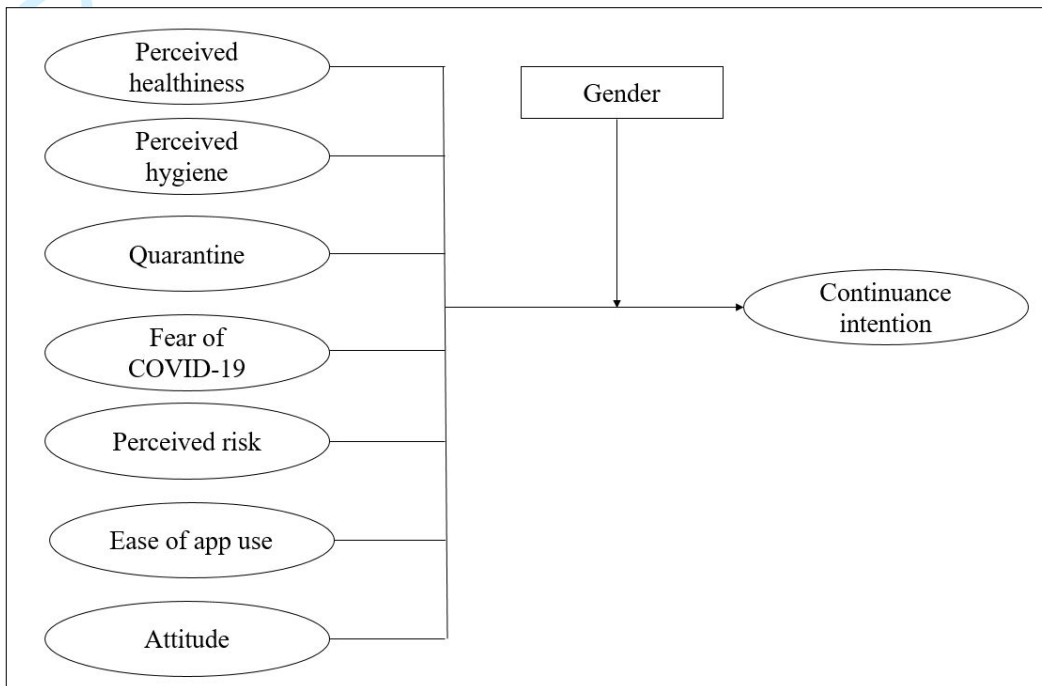
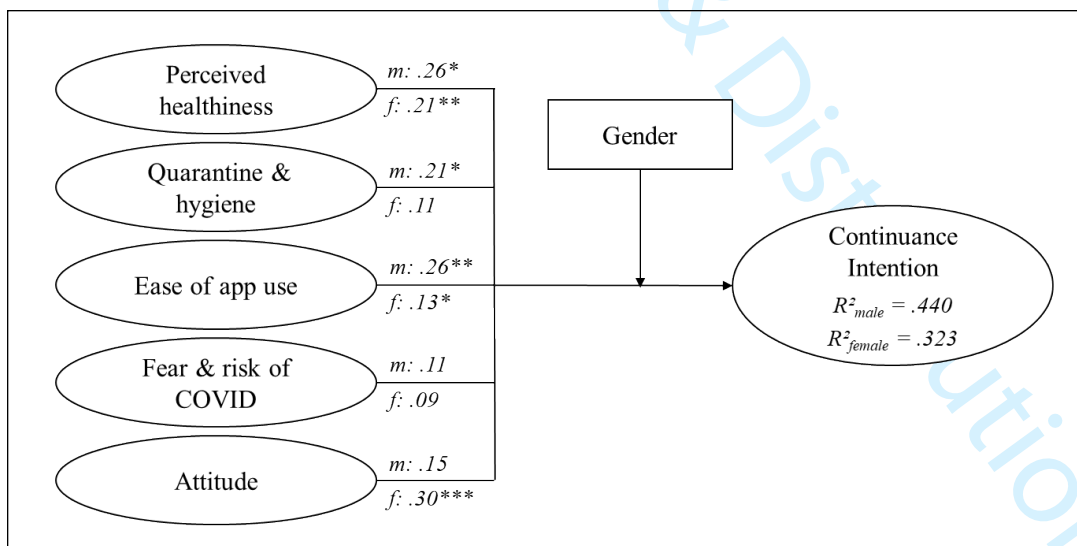
Figure 1. Conceptual Model**Figure 2.** Results of the Model

Table I. Reliability and validity tests

Construct	Mean (SD)	CR (> .60)	AVE (> .40)	SIC				
				1	2	3	4	5
1. attitude	5.99 (1.04)	.93	.77					
2. healthiness	3.40 (1.19)	.88	.65	.06				
3. hygiene & quarantine	5.17 (1.00)	.93	.64	.18	.19			
4. ease of app use	6.03 (1.00)	.94	.85	.08	.03	.15		
5. continuance intention	4.32 (1.41)	.89	.73	.20	.17	.19	.12	
6. fear & risk of COVID	3.63 (1.44)	.89	.56	.06	.02	.00	.00	.04

Table II. Standardized parameter estimates of the structural model

Parameters	Overall model R ² = 0.352	Female consumers R ² = 0.323	Male consumers R ² = 0.440	Difference
H1: Healthiness → continuance intention	0.23***	0.21**	0.26*	-0.05 ^{ns}
H2 & H3: Quarantine & hygiene → continuance intention	0.15*	0.11 ^{ns}	0.21*	-0.10 ^{ns}
H4: Ease of app usage → continuance intention	0.17**	0.13*	0.26**	-0.13 ^{ns}
H5 & H6: Fear & risk of COVID → continuance intention	0.09 [†]	0.09 ^{ns}	0.11 ^{ns}	-0.02 ^{ns}
H7: Attitude → continuance intention	0.26***	0.30***	0.15 ^{ns}	0.15 ^{ns}

[†] p < 0.100; * p < 0.050; ** p < 0.010; *** p < 0.001; ^{ns} non significant

Notes on the revision of the manuscript IJRDM-11-2021-0537.R5

Title

**PREDICTORS OF CONTINUANCE INTENTION OF ONLINE FOOD DELIVERY SERVICES:
GENDER AS MODERATOR**

Dear Editor and Reviewers,

We thank you for the opportunity to further improve our paper. All the comments made by the reviewers were of great help to us in order to provide an enhanced contribution to the literature and, in particular, to the International Journal of Retail & Distribution Management. We also want to thank you for giving additional motivating suggestions that have helped significantly refine our research.

Below, we indicate how we addressed each reviewer's comment during our revision.

REVIEWER 1**REVIEWER 1, COMMENT 1:**

Originality: Does the paper contain new and significant information adequate to justify publication? Yes

RESPONSE TO REVIEWER 1, COMMENT 1:

Thank you very much for your appreciation. We are very glad that, in your opinion, our paper offers new and significant information adequate to justify publication.

REVIEWER 1, COMMENT 2:

Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: Literature review: you should include an introductory paragraph, informing the reader on the structure of your review.

RESPONSE TO REVIEWER 1, COMMENT 2:

Thank you very much for your comment. Starting from your suggestion, we have inserted an introductory paragraph where we inform the reader about the structure of our literature review.

Notably, we wrote as follows:

[PAGE 4]. "This section first discusses the continuance intention conceptualization and its main antecedents previously analysed by both the general literature and that focused on the OFDS industry. The second part focuses its attention on the identification of the antecedents

investigated in the present contribution (i.e., perceived healthiness, perceived hygiene, quarantine, fear of COVID-19, perceived risk of eating out, ease of app use, and attitude), along with the motivations that led to select them and their conceptualization”.

REVIEWER 1, COMMENT 3

Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate? Yes

RESPONSE TO REVIEWER 1, COMMENT 3:

Thank you very much for your appreciation. We are very glad that you think that the methodology section is well designed, and the adopted method is appropriate.

REVIEWER 1, COMMENT 4:

Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper? Yes

RESPONSE TO REVIEWER 1, COMMENT 4:

Thank you very much for your appreciation. We are very glad that, in your opinion, the results have been clearly and appropriately analysed, and the conclusions adequately tie together the other elements of the paper.

REVIEWER 1, COMMENT 5:

Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?
Limitations: sample respondents are not only young (as you note), but 34% males and 66% females – they are clearly more likely to be young females; what about when they match the population of young people?

RESPONSE TO REVIEWER 1, COMMENT 5:

Thank you very much for pointing this out. We are aware of the man-woman imbalance. However, this imbalance reflects the situation at the Italian level. More in detail, we have selected in our sample Italian students since they are viewed as representative of people under

30 years old. From the analysis of the sample, a gender imbalance emerges, which perfectly reflects the Italian situation. Indeed, currently, the disparity between men and women for what concerns the number of students enrolled in degree courses in Italy is increasingly significant. In particular, in the year 2020-2021, 56% of the students enrolled in a degree course in Italy are women (Ministero dell'Università e della Ricerca, 2021)¹. This percentage increases if we analyse the situation related to the students who continue their careers by completing their university path. Notably, according to Almalaurea, in 2020, almost 60 percent of the students obtaining a degree in Italy were women. However, we understand that this imbalance represents a limitation of our research. Therefore, we have included it in subparagraph 6.3 (i.e., Limitations and future research). In particular, we wrote as follows:

[PAGES 18-19]. “In addition, the sample presents an imbalance for what concerns the gender distribution (34% men; 66% women). Even if this imbalance reflects the Italian situation since the majority of students enrolled in a degree course are currently women (Ministero dell'Università e della Ricerca)², in future research, it might be interesting to select another sample (different from Italian students) in order to possibly reduce this gap”.

REVIEWER 1, COMMENT 6:

Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: Please revise the following:

- *Separate paragraphs throughout the text.*
- *Citation should be in alphabetical order when you use two or more sources; for instance, in page 2: (Dirseham and Cankat, 2021; Kappor and Vij, 2018; Petit et al., 2021); revise throughout the text.*
- *(p. 3) last line: “... customers’ behaviours...”*
- *(p. 4) Jun and colleagues (2022) to Jun et al. (2022); revise throughout the text...*
- *(p. 12) “Marginally significant effect”? Not significant at 0.05 level, significant at 0.10 level.*
- *(p. 18) “... controlling the cultural (adaption?) for items...”*

RESPONSE TO REVIEWER 1, COMMENT 6:

¹ <http://ustat.miur.it/dati/didattica/italia/atenei>

² <http://ustat.miur.it/dati/didattica/italia/atenei>

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3 Thank you very much. By following your suggestions, we have carefully revised all the items
4 listed in the present comment.
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8 **REVIEWER 2**

9 **REVIEWER 2, COMMENT 1:**

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11 *Dear authors thank you for your research, it is very interesting both in terms of scientific and*
12 *than managerial implications. I suggest you to extend the sample, also in future research, to*
13 *make the results more meaningful and therefore generalizable.*
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17 [....]

18 *Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or*
19 *other ideas? Has the research or equivalent intellectual work on which the paper is based been*
20 *well designed? Are the methods employed appropriate? The methodology adopted is adequate*
21 *to answer the research question. However, the sample of 360 students analysed is small and*
22 *makes the results difficult to generalize. The sample should be extended.*
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27 **RESPONSE TO REVIEWER 2, COMMENT 1:**

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29 First of all, thank you very much for your appreciation. For what concerns your suggestion, we
30 are aware that a more extended sample would make the data more generalizable. For this reason,
31 in future research, we will try to obtain a higher sample of responses. We decided not to try to
32 extend the sample in this phase since the conditions related to the COVID-19 situation have
33 massively changed. Therefore, collecting new data could skew our results. Moreover, since in
34 future studies, we would like to realize a longitudinal analysis with the final aim of examining
35 customers' perceptions in different time periods (e.g., during vs. after COVID-19), we will
36 remember your suggestion regarding the need to obtain a larger sample. Finally, even if, as you
37 have rightly pointed out, the sample could be more numerous, we believe that it could be
38 considered a sufficiently reliable one. In particular, considering that our reference population is
39 equal to 1.793.210 (Italian university students enrolled in a degree course), our sample (n=360)
40 has a confidence level equal to 94% with an error margin of 5%. Furthermore, the sample is
41 above the rule of 200, and the sample to item ratio is 12.4, which is higher than the acceptable
42 ratio of 5:1 (Gorsuch, 1983). Thus, an adequate sample size to conduct the reported analyses is
43 achieved.
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56 **REVIEWER 2, COMMENT 2:**

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58 *Originality: Does the paper contain new and significant information adequate to justify*
59 *publication? The paper contains information adequate to justify publication*
60

RESPONSE TO REVIEWER 2, COMMENT 2:

Thank you very much for your appreciation. We are very glad that, in your opinion, our paper contains information adequate to justify publication.

REVIEWER 2, COMMENT 3:

Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored? The reference literature on the subject has been adequately analyzed. The most significant works supporting the hypotheses were cited.

RESPONSE TO REVIEWER 2, COMMENT 3:

Thank you very much for your appreciation. We are very glad that, in your opinion, the reference literature focused on the analysed subjects is adequately examined.

REVIEWER 2, COMMENT 4:

Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper? The survey results are clearly presented. The discussions of the same are well argued and linked to the hypotheses proposed.

RESPONSE TO REVIEWER 2, COMMENT 4:

Thank you very much for your appreciation. We are very glad that, in your opinion, our findings are well presented and their discussion is well argued and linked to the proposed hypotheses.

REVIEWER 2, COMMENT 5:

Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper? The study provides several theoretical and managerial contributions. However, the impact upon society in order to influence public attitudes and quality of life should be more stressed.

RESPONSE TO REVIEWER 2, COMMENT 5:

Thank you very much for your comment. We thank you for this suggestion because it allowed us to reinforce our managerial implications. In particular, we have broadened our perspective

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2
3 by analysing the implications not only from the firms' point of view but also for consumers and
4 society in general. Notably, we wrote as follows:

5
6 **[PAGE 18]**. "Besides the firms' perspective, this study also highlights the OFDS impact on the
7 customers' quality of life. More in detail, considering that healthiness and hygiene represent,
8 for customers, significant antecedents of their intention to continue using OFDS, this could
9 mean that restaurants, by offering healthy menus with particular attention to hygiene and
10 sanitation, could make a considerable improvement in food style and safety for consumers. In
11 this way, online food ordering could significantly influence the citizens' well-being. Moreover,
12 results also underline the relevance of the ease of app use. This OFDS feature could be relevant,
13 to the customers' quality of life, in different ways. Firstly, an easy app can reduce customers'
14 stress by allowing them to better manage their time (Saad, 2021). Secondly, the digital payment
15 (usually included between the app's features) enables people to avoid going out specifically to
16 withdraw money, thus reducing city traffic. Indeed, literature (Peng, 2019) detects how online
17 shopping, and consequently OFDS, are more traffic-friendly with respect to the offline options
18 since they reduce the movement of people as they await delivery directly to their homes.
19 Overall, this translates into a reduction in city traffic and a consequent improvement in air
20 quality (Saad, 2021)".
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34 **REVIEWER 2, COMMENT 6:**

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36 Quality of Communication: Does the paper clearly express its case, measured against the
37 technical language of the field and the expected knowledge of the journal's readership? Has
38 attention been paid to the clarity of expression and readability, such as sentence structure, jargon
39 use, acronyms, etc.: the readability of the text and the communicative style are sufficient.
40
41

42 **RESPONSE TO REVIEWER 2, COMMENT 6:**

43
44 Thank you very much for your appreciation. We are very glad that, in your opinion, the level
45 of readability of the text and the communicative style are adequate.
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49
50 Finally, we want to thank the Editor and the Reviewers for their additional precious suggestions.
51 We think that our paper has been further improved through the comments of this revision and
52 the previous one. Therefore, we hope that you agree that our contribution is significantly
53 enhanced. We look forward to your feedback. Thank you once again for all the efforts related
54 to our submission.
55
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57
58 *The Authors*
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