

Factors affecting utilitarian and hedonic attitudes towards online food delivery services during the COVID-19 pandemic. A study of Canadian consumers

Authors

Giada Mainolfi

Associate professor of Management
Faculty of Economics
University of International Studies of Rome (UNINT)
Via Cristoforo Colombo, 200 - 00147 Roma, Italy.
giada.mainolfi@unint.eu

Simona D'Amico

Assistant professor of Management
Department of Economics and Law
University of Cassino and Southern Lazio
Via S. Angelo - 03043 Cassino (FR), Italy.
simona.damico@unicas.it

Donata Tania Vergura

Associate professor of Marketing
Department of Economics & Management
University of Parma
Via J.F. Kennedy, 6 - 43125 Parma, Italy.
donatatania.vergura@unipr.it

Factors affecting utilitarian and hedonic attitudes towards online food delivery services during the COVID-19 pandemic. A study of Canadian consumers.

Abstract

The purpose of this study is to use theoretical advances related to the S-O-R framework to test a model in which utilitarian and hedonic attitudes predict behavioural responses associated with OFD services. To test the proposed model, an online survey was carried out on a sample of Canadian consumers (223) over the period March-May 2021. Findings reveal that risk perception towards OFD during COVID-19 negatively influences utilitarian attitudes. Perceived usefulness of OFD and price saving, instead, positively affect hedonic attitudes, which, in turn, positively influence purchase intention. This study validates a comprehensive conceptual model that describes the intent to deploy OFD services during health emergencies. This paper provides guidance to help food companies determine the most appropriate ways to reduce perceived risks and improve perceived ease of use associated with the use of home delivery services.

Keywords: online food delivery, S-O-R model, risk, service, attitude

Introduction and objectives

During the Covid-19 health emergency online food delivery (OFD) has proven to be an essential service for both consumers and businesses. On the one hand, OFD services gave individuals the possibility to buy food staying at home and feeling safer especially in the most affected areas, on the other, it also gave the opportunity to groceries and restaurants to continue working. The usefulness of OFD services allowed the sector to consolidate its potential more quickly, bringing non-users closer to appreciate its features. Forecasts estimate the industry to grow to USD 365bn by 2030, thanks in part to opening to emerging markets, improved logistics and a structural shift towards online food and grocery delivery (UBS, 2019). The significance of the phenomenon is also evidenced by the growing literature on the subject. Studies so far have employed different theoretical frameworks such as the theory of planned behaviour (Troise et al. 2021), technology acceptance model (Hong et al., 2021), unified theory of acceptance and use of technology (Venkatesh et al., 2012) and the contingency framework (Yeo et al., 2017) to investigate consumer behaviours towards OFD services. However, some scholars have criticised these models for failing to account for the affective dimension of behaviour, and instead recommend including emotional variables to extend the theory (e.g., Moon et al., 2017). Furthermore, despite the importance of risk perception in determining food related choices, very few studies of risk have been applied to food-related services. Following this reasoning, the study aims at investigating the influences exerted by perceived risk (towards COVID-19 and towards OFD during COVID-19) and service evaluation on utilitarian and hedonic attitudes, using theoretical advances related to S-O-R framework (Mehrabian and Russell, 1974; Peng et al., 2014). Based on a survey of Canadian consumers, the study uses structural equation modelling to test the effects of both utilitarian and hedonic attitudes on purchase intention of OFD services. In addition, the study evaluates perceived risk and service evaluation as antecedents to attitudes. The choice of investigating the Canadian market is motivated by the fact that Canada has been one of the countries that has seen exponential growth in online food delivery during COVID-19 health emergency. Pre-pandemic, the delivery channel was around 4% of the entire food service market. Through the pandemic it doubled, growing to 8% (Insider Intelligence, 2021). Revenue in the OFD segment is estimated to reach US\$6.12bn by the end of 2022 (Statista, 2022).

Theoretical background and research hypotheses

Scholars agree that the health emergency has redefined people's food purchasing and consumption habits around the world, generating a substantial increase in demand for ready-to-eat food delivery services (Mangono et al., 2020; Zanetta et al., 2021; Hong et al., 2021). On closer inspection, customers who purchased food through OFD platforms perceived fewer threats and greater product engagement (Al Amin et al, 2021; Sharma et al., 2021; Uzir et al., 2021). In addition, some studies found that during the pandemic, hedonic motivation (Prasetyo et al, 2021; Sharma et al, 2021; Shah et al., 2021), food quality, variety, and safety (Dsouza and Sharma, 2021; Shah et al., 2021) significantly influenced customer satisfaction and loyalty. From the above literature, the objective of this work is to use theoretical advances related to the S-O-R framework to test a model in which utilitarian and hedonic attitudes predict behavioral responses associated with OFD services. The Stimulus-Organism-Response (S-O-R) model has often been used in the literature to explain consumer decision-making and purchasing behavior, which would be determined not only by factors internal to the individual, such as demographic or psychographic variables, but also by contextual conditions and thus by a set of stimuli from the environment (Bagozzi, 1986). The organism, i.e., the individual's internal state, makes a connection between environmental stimuli and behavioral responses (Mehrabian and Russel, 1974; Baker et al, 1992; Chang et al, 2011; Eroglu et al., 2003; Islam and Rahman, 2017; Kang and Sohaib, 2015; Kim and Lennon, 2013; Mollen and Wilson, 2010; Rose et al., 2012) so that the process triggered by the S-O-R model is not linear. An input does not automatically correspond to an output: in fact, not all consumers are subject to the same stimuli, and even if they were, they would not react in the same way. Recent studies have also

analyzed consumer behavior when external stimuli are generated by a crisis situation (Sneath et al., 2009). The objective of this study is to test a model in which utilitarian and hedonic attitudes predict behavioral reactions with respect to OFD services, using theoretical advances related to the S-O-R framework (Mehrabian and Russell, 1974). According to the S-O-R framework, the conceptual foundations of the proposed model envisage four environmental stimuli which can be grouped into two categories: “perceived risk” and “service evaluation”. Perceived risk, conceptualized in terms of perceived risk toward contagion from COVID-19 and toward OFD services during COVID-19, significantly affects consumer decision making (Verbeke et al., 2007). The second set of variables concerns service evaluation in terms of perceived usefulness and motivation to save. Perceived usefulness refers to the benefits that can be derived from using a service or technological innovation (Davis, 1989). With reference to OFD, usefulness can be assessed in terms of the operator’s ability to offer a high level of service (ease of use, quality speed, variety of offerings) and, at the same time, in terms of consistent care in the choice of affiliated restaurants and the quality of food offered. Following this line of inquiry, the study aims to explore the potential influences exerted by perceived risk and service evaluation on attitude toward OFD services and, consequently, of both utilitarian and hedonic attitudes on behavioral intention. OFD services. More precisely, following hypotheses are formulated:

- H1a: Risk perception toward COVID-19 positively influences utilitarian attitude toward OFD services.*
- H1b: Risk perception toward COVID-19 positively influences hedonic attitude toward OFD services.*
- H2a: Risk perception toward OFD during COVID-19 emergency significantly decreases utilitarian attitude toward OFD services.*
- H2b: Risk perception toward OFD during COVID-19 emergency negatively influences hedonic attitude toward OFD services.*
- H3: Perceived usefulness positively influences (a) utilitarian attitude and (b) hedonic attitude toward OFD services.*
- H4: Price-saving positively influences (a) utilitarian attitude and (b) hedonic attitude toward OFD services.*
- H5: Utilitarian attitude positively influences intention to use OFD.*
- H6: Hedonic attitude positively influences intention to use OFD.*

Method

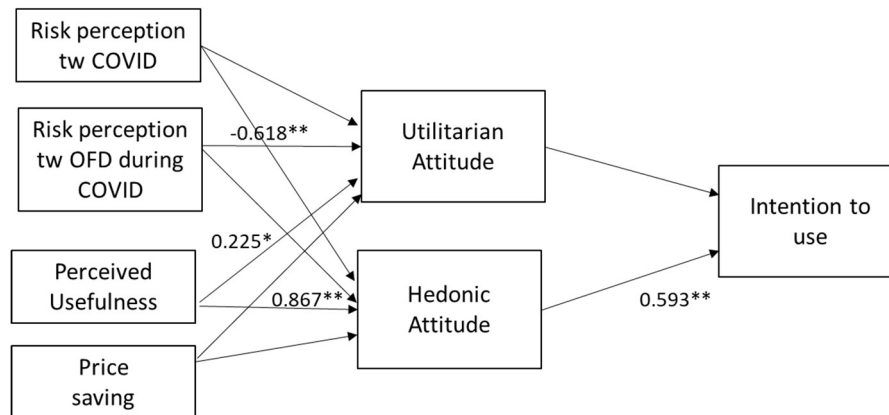
Data was collected by means of a web survey. In total, 223 Canadian consumers were reached (45% female, 55% male). Participants were first asked if they had ever used the online food delivery service. Only those who answered yes were able to complete the survey. Latent variables were measured using scales that have been well validated in the literature. All statements were on a 7-point anchored scale. For the analysis of the conceptual model, structural equation modelling (SEM) was performed using the LISREL software (release 8.80).

Findings

Results in Figure 1 show that the perceived risk variables do not exert a significant influence on attitude towards OFD services, except for risk perception toward OFD during COVID-19 that negatively influences utilitarian attitude ($\beta = -0.618$, $p < 0.01$): a high risk associated to using online food delivery translates in a better attitude, thus supporting H2a. Among the service variables, only perceived usefulness positively affects both hedonic ($\beta = 0.867$, $p < 0.01$) and utilitarian attitude ($\beta = 0.225$, $p < 0.05$). Therefore, the model supports H3a and H3b. On the contrary, H4a and H4b do not find support in the empirical data. Finally, a significant relationship emerged between hedonic attitude and intention to use ($\beta = 0.593$, $p < 0.01$) as hypothesized in H6. In other words, the pleasantness in

using the online food delivery services increases the intention to use. On the other hand, the utilitarian aspect of the service does not have the same effect.

Figure 1. Structural model with standardized coefficients



$\chi^2 = 382.718$, $df = 236$, $p < 0.001$, CFI = 0.979, RMSEA = 0.052, NNFI = 0.976, NFI = 0.948

Discussion and final conclusion

From a theoretical perspective, the study highlights the key role of perceived usefulness, risk perception toward OFD during COVID-19 (stimuli) and hedonic attitude (organism) in guiding the user behavior toward OFD services (response). More specifically, the research supports the hypotheses that the greater the post usage usefulness, the greater the utilitarian and hedonic attitude toward OFD services. On the contrary, the perception that using online food delivery during the COVID-19 emergency is risky has a negative impact on utilitarian attitude, thus decreasing the perception of the utilitarian benefits associated with this way of delivery. Finally, the hedonic aspect of using OFD services appears as the only attitudinal dimension able to influence the intention to use. In other words, in using OFD consumers seem to be mainly guided by the perception of pleasure and amusement rather than utilitarian aspects.

Managerial implications

Findings on risk perceptions associated with OFD services during the COVID-19 pandemic suggest delivery companies need to invest more in activities able to reassure consumers. Communication to inform end-consumers of the procedures put in place to ensure safety and health plays a key role in this. For example, the end of the digital signature on the smartphone and the contactless deposit of the order at the entrance. At the same time, considering the emerged relevance of hedonic attitudes, OFD operators should also invest in guaranteeing a pleasant digital experience where functional and playful features combine harmoniously to let customers follow the whole process in an immersive way.

Limitations and further research

This study has some limitations, some of which provides indications for further research. First, the data were collected using a convenience sample that may not be representative of the general population of Canada. Moreover, this study examines one advanced country. It could be interesting to extend the context under investigation to emerging countries, which are recording relevant OFD performances. Second, we examined only the behavioural intention. In view of this limitation, further research may be addressed toward the assessment of actual purchase behaviour.

References

- Al Amin, M.A., Arefin, M.S., Alam, M.R., Ahammad, T., Hoque, M.R. (2021). Using mobile food delivery applications during COVID-19 pandemic: an extended model of planned behavior. *Journal of Food Products Marketing*, Vol. 27, No. 2, pp.105–126.
- Anderson, R.E. and Srinivasan, S.S. (2003). E-satisfaction and e-loyalty. A contingency framework, *Psychology and Marketing*, Vol. 20, No. 2, pp.123–138.
- Bagozzi, R.P. (1986). Principles of marketing management, Science Research Associates, Chicago.
- Baker J., Levy M., Grewal D. (1992). An experimental approach to making retail store environmental decisions, *Journal of Retailing*, Vol. 68, No. 4, pp. 445-460.
- Chang, H. J., Eckman, M., Yan R. N. (2011). Application of the Stimulus-Organism-Response model to the retail environment: the role of hedonic motivation in impulse buying behaviour, *The International Review of Retail, Distribution and Consumer Research*, Vol. 21, No. 3, pp. 233-249.
- Davis, F.D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology, *Computer Science, Psychology*, Vol. 13, No. 3, pp. 319-340.
- Dsouza, D., Sharma, D. (2021). Online food delivery portals during COVID-19 times: an analysis of changing consumer behavior and expectations. *Int. J. Innovat. Sci.*, Vol. 13, No. 2, pp. 218–232.
- Eroglu, S.A., Machleit, K.A., Davis L.M. (2003). Empirical testing of a model of online store atmospherics and shopper responses, *Psychology & Marketing*, Vol. 20, No. 2, pp. 139-150.
- Gunden, N., Morosan, C. and DeFranco, A. (2020). Consumers' intentions to use online food delivery systems in the USA, *International Journal of Contemporary Hospitality Management*, Vol. 32, No. 3, pp.1325-1345.
- Hong, C., Choi, H., Choi, E.K., and Joung, H.W. (2021), Factors affecting customer intention to use online food delivery services before and during the COVID-19 pandemic, *Journal of Hospitality and Tourism Management*, Vol. 48, pp. 509-518.
- Insider Intelligence (2021). "Food delivery orders in Canada increased substantially amid the pandemic", available at: <https://www.insiderintelligence.com/content/food-delivery-orders-canada-increased-substantially-amid-pandemic>, accessed on 24th September 2022.
- Islam, J.U., Rahman, Z. (2017). The impact of online brand community characteristics on customer engagement: An application of Stimulus-Organism-Response paradigm, *Telematics and Informatics*, Vol. 34, No. 4, pp. 96-109.
- Kim, J., Lennon, S.J. (2013). Effects of reputation and website quality on online consumers' emotion, perceived risk and purchase intention: Based on the stimulus-organism-response model, *Journal of Research in Interactive Marketing*, Vol. 7, No. 1, pp. 33-56.
- Mangono, T., Smittenaar, P., Caplan, Y., Huang, V. S., Sutermaister, S., Kemp, H. and Sgaier, S. K. (2020). The Pace and Pulse of the Fight against Coronavirus across the US, A Google Trends Approach, arXiv.org, pp. 1-19.
- Mehrabian, A. and Russell, J. A. (1974). *An approach to environmental psychology*, The MIT Press.
- Mollen, A., Wilson, H. (2010). Engagement, telepresence and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives, *Journal of Business Research*, Vol. 63, n. 9-10, pp. 919-925.
- Moon, M.A., Khalid, M.J., Awan, H.M., Attiq, S., Rasool, H. and Kiran, M. (2017). Consumer's perceptions of website's utilitarian and hedonic attributes and online purchase intentions: A cognitive-affective attitude approach, *Spanish Journal of Marketing – ESIC*, Vol. 21 No. 2, pp. 73-88.
- Peng, C. and Kim, Y.G. (2014). Application of the Stimuli-Organism-Response (S-O-R) Framework to Online Shopping Behavior, *Journal of Internet Commerce*, Vol. 13, No. 3-4, pp. 159-176.
- Prasetyo, Y.T., Tanto, H., Mariyanto, M., Hanjaya, C., Young, M.N., Persada, S.F., Miraja, B.A., Redi, A.A.N.P. (2021). Factors affecting customer satisfaction and loyalty in online food delivery service during the COVID-19 pandemic: its relation with open innovation. *J. Open Innovat.: Technol. Market Complex*. Vol. 7, No.1, p. 76.
- Rose, S., Clark, M., Samouel, P., Hair, N. (2012). Online customer experience in e-retailing: an empirical model of antecedents and outcomes, *Journal of Retailing*, Vol. 88, No. 2, pp. 308-322.

- Saad, A.T. (2021). Factors affecting online food delivery service in Bangladesh: an empirical study, *British Food Journal*, Vol. 123, No. 2, pp. 535-550.
- Shah, A.M., Yan, X., Qayyum, A. (2021). Adoption of mobile food ordering apps for O2O food delivery services during the COVID-19 outbreak. *Br. Food J.* <https://doi.org/10.1108/BFJ-09-2020-0781>.
- Sharma, R., Dhir, A., Talwar, S., Kaur, P. (2021). Over-ordering and food waste: the use of food delivery apps during a pandemic. *Int. J. Hospit. Manag.* Vol. 96.
- Sneath, J.Z., Lacey, R., and Kennett-Hensel, P.A. (2009), Coping with a natural disaster: Losses, emotions, and impulsive and compulsive buying, *Marketing Letters*, Vol. 20, pp. 45-60.
- Statista (2020). "Online food delivery 2020", available at: <https://www.statista.com/outlook/dmo/eservices/online-food-delivery/worldwide>, accessed on 23rd September 2022.
- Statista (2022). "Online food delivery Canada 2022", available at: <https://www.statista.com/outlook/dmo/eservices/online-food-delivery/canada>, accessed on 24th September 2022.
- Troise, C., O'Driscoll, A., Tani, M. and Prisco, A. (2021). Online food delivery services and behavioural intention – a test of an integrated TAM and TPB framework, *British Food Journal*, Vol. 123 No. 2, pp. 664-683
- UBS (2019). "The food revolution", available at: <https://www.ubs.com/global/en/wealth-management/chief-investment-office/sustainable-investing/2019/food-revolution.html>, accessed on 23rd September 2022.
- Uzir, M.U.H., Al Halbusi, H., Thurasamy, R., Hock, R.L.T., Aljaberi, M.A., Hasan, N., Hamid, M. (2021). The effects of service quality, perceived value and trust in home delivery service personnel on customer satisfaction: evidence from a developing country. *J. Retailing Consum. Serv.* Vol. 63.
- Venkatesh, V., Thong, J.Y.L. and Xu, X. (2012). Consumer acceptance and use of information technology: extended the unified theory of acceptance and use of technology, *MIS Quarterly*, Vol. 36, No. 1, pp. 157–178.
- Verbeke, W., Frewer, L.J., Scholderer, J. and De Brabander, H.F. (2007). Why consumers behave as they do with respect to food safety and risk information, *Analytica chimica acta*, Vol. 586, No. 1-2, pp. 2-7.
- 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*, Vol. 35, pp. 150-162.
- Zanetta, L.D., Hakim, M.P., Gastaldi, G.B., Seabra, L.M.J., Rolim, P.M., Nascimento, L.G. P., Medeiros, C.O., da Cunha, D.T. (2021). The use of food delivery apps during the COVID-19 pandemic in Brazil: the role of solidarity, perceived risk, and regional aspects. *Food Res. Int.* 149, 110671.