

## ONLINE FOOD PURCHASING DURING COVID-19 PANDEMIC

Gergana BALIEVA

Trakia University, Campus 4, Stara Zagora, Bulgaria, E-mail: gnikolova.vet@gmail.com

*Corresponding author:* gnikolova.vet@gmail.com

### *Abstract*

*Covid-19 pandemic led to many disturbances in everyday life, including regular supplies with medicines and food especially during quarantine. The present study aimed to investigate the way the pandemic affected the food chain based on consumers' preferences for e-shopping of food products. An anonymous questionnaire was distributed before the pandemic in February-March 2020 and later in September 2020-March 2021 among 470 Bulgarian citizens in total. The survey showed that for 43.4% of the respondents "Online shop/ E-shop/ E-market" was the most preferred online channel for ordering/purchasing food. The reasons for choosing internet shopping varied: convenience of purchase (19.6%); no physical attendance (6.4%); fresh products (3.8%); comparison of prices (8.5%); lack of preferred products on the conventional market (11.1%); finding products from distant markets (10.9%); health issues/isolation (0.2%). There were several types of products purchased via internet: food from animal origin (6.2%); fruits & vegetables (2.6%); organic food (18.1%); delicacies/exquisite products (8.5%); honey & bee products (5.5%); medicinal food/additives (12.3%); confectionery (7.7%); pet food (0.6%); cooked meals (1.3%). In conclusion, food purchased online was significantly increased during the Covid-19 epidemic and afterwards due to changes in the consumers' demands.*

*Key words:* consumers, Covid-19, e-trade, food

### INTRODUCTION

Trade in food products for human consumption is an activity that both at micro- and macro level contributes to increased diversity of products offered. At the same time, it could be said that it leads to uneven food distribution and security which is a result of many complex factors, among which fall the global food crises (Xu, 2019) [48] that pose the need for restructuring of the global food trade and production and food security, especially after the Covid-19 outbreak (Lugo-Morin, 2020) [29]. As stated by Gombkötő (2017) [17] the structure of trade in agricultural and food products has changed increasingly towards the higher-value food products during the past decades. It is estimated that in present time food production generates significant added value and is the largest economy in the world (Kirechev & Petev, 2021) [24]. However, the largest share of agricultural exports is transacted mainly within the regions with exception of the European Union (EU) and the USA as the largest trading partners all over the world (Gombkötő, 2017) [17]. Studies on the agri-food chains in the EU (Voicilas et al., 2017)

[44] showed that stimulated by the EU policies new markets will develop and expand, driven by increased attention for conscious food choices, sustainable production and locally produced food. Combined with the consequences after the global health pandemic, the consumers grow very concerned about their health and food choices (Latip et al., 2020) [27] and some of them even boost their belief towards food organic consumption (Hassen et al., 2020) [19]. Considering the changes in the consumers' behaviour and the restructuring of the food market, business oriented individuals took the opportunities created by the implemented sanitary measures for control of the pandemic (e.g., confinement, social distancing, and closure of local and national borders) (Lugo-Morin, 2020) [29] to sell their products, employing multiple ways and platforms (Limon, 2021) [28], many of them connected to e-trade. As defined by Alam (2019) [2] e-trade means e-goods and e-service which are rapidly expanding currently, e.g. over 50% of EU consumers have made an online purchase in the period 2018 – 2019 (Genchev, 2020) [15]. Moreover, Alcedo et al. (2022) [3] observed a long-lasting shift to e-

commerce activities in the retail and food sector. The behaviour and perception of people for e-shopping of food for convenience were studied by a range of authors, even at the pre-Covid-19 stage (Sethu & Saini, 2016; Rathore & Chaudhary, 2018) [38, 35] but after the pandemic in the view of the New Normal, the citizens further shifted their purchasing intentions toward online channels due to safety reasons (Latip et al., 2021) [26]. In this context, the purpose of the paper is to evaluate in what measure the pandemic affected the food chain based on consumers' preferences for e-shopping of food products.

## MATERIALS AND METHODS

### *Design of Survey*

An anonymous questionnaire was distributed before the pandemic in February-March 2020 and later in September 2020-March 2021 among 470 Bulgarian citizens in total. The participants were students at Trakia University who were given a paper questionnaire to fill it in anonymity with additional four more questionnaires for distribution to family members and friends. The respondents, thus, represented heterogenous groups throughout the country. This study did not need ethics approval.

The questions in the survey were distributed in several sections. Briefly, the first section (questions 1-4) contained questions on the participant's demographic data, such as gender, residence (capital city, city-administrative centre, small town, village), occupation with correspondent age range and educational background. The second section (questions 5-8) focused on the respondents' choices of online channels for food shopping, main driving factors toward e-shopping and types of food purchased online. The third section (questions 9) contained statements about the respondents' online purchasing behaviour during the pre-Covid-19 outbreak and afterwards.

### *Statistical Analysis*

All data received were numerically coded for easier processing of textual statements and statistically analysed (IBM SPSS-Inc., 2019, SPSS Reference Guide 26 SPSS, Chicago,

USA). The study parameters were analysed through descriptive statistics (frequency distribution tables), and Student t-test. A two-tailed  $p < 0.05$  was considered significant. The results afterwards were presented on diagrams (Excel, Windows 10).

## RESULTS AND DISCUSSIONS

Respondents' demographics varied in gender, residence and occupation (Table 1). Most of the participants in the survey were women (59.4%), while in terms of occupation almost half of them (48.5%) were studying for their university degree (representing age range 18-25) or being employed (mostly in the range 30-60). In consistence with our study come the findings of Latip et al. (2021) [26] who studied the food purchase in the "New Normal" after Covid-19 epidemic who found that female respondents (67.3%) outnumbered male respondents (32.7%), with majority of them aged between 21 to 30 years old (58.5%) and with an academic background (45.5%). Even higher proportion was reported by Beliya et al. (2019) [6] in a study on consumers' satisfaction by using online food services, showing that 77.5% of their respondents were represented by the age group of 18 – 25 years, mainly college students. The same authors argue that people between the age group of 18-30 years were using the online food services more than any other age group which could be linked to our study with a share of 48.5% university students aged 18-25 years and found to have preferences for use of Applications and Online platforms for purchase and sale ( $t[468]=4.936, p=0.000$ ).

Based on their residential area most of the participants in our survey were with urban background, living in the capital city and administrative cities throughout the country (91.3% in total), while only 8.1% of them come from rural settings (towns and villages). In similar studies in other countries regarding online food shopping (Wang & Somogyi, 2018) [46] the participants were also from big administrative cities including capital with distinctive online-food-pioneer characteristics (58%), showing innovation-adoption attitude.

At the same time, Hatim et al. (2019) [20] stated that through some mobile applications a diverse range of different types of food was delivered in city areas but also a particular application offered e-service in rural areas and small towns, thus assisting residential students. Similarly, alternative food networks with strong connection to the territory appeared as new forms of food distribution (Arcidiacono, 2018) [4]. However, there was no statistically significant difference in our study between the respondents' residential area and their use of online food platforms or applications ( $t[465] = -1.615, p > 0.05$ ).

Table 1. Demographic profile of consumers who purchase food online\*

Respondents' Demographics	Count	Percentage
<b>Gender</b>		
1) Female	279	59.4
2) Male	191	40.6
<b>Residence</b>		
1) Capital city	50	10.6
2) City-Regional administrative centre	288	61.3
3) City-Municipal administrative centre	91	19.4
4) Town	7	1.5
5) Village	31	6.6
<b>Occupation (Corresponding age)</b>		
1) High school student (<18 years old)	19	4.0
2) University student (18-25 years old)	228	48.5
3) Unemployed	12	2.6
4) Employed (25-60 years old)	204	43.4
5) Retired (60 > years old)	7	1.5
<b>Online channels for ordering/purchasing food</b>		
1) Online shop/ E-shop/ E-market	204	43.4
2) Online platform for purchase and sale/Applications	66	14.0
3) Social networks (e.g. Facebook pages)	86	18.3
4) Website of a restaurant	1	0.2
5) More than one	111	23.6
<b>Participation in the survey</b>		
1) Period before Covid-19 outbreak	77	16.4
2) Period during and after Covid-19 outbreak	393	83.6

\*Due to rounding of values some indicators may not sum up to 100%

Source: Author's data from the questionnaire survey.

Based on the respondents' considerations for use of online channels for ordering and purchasing food, the majority of them prefer to use e-markets and online shops (43.4%), followed by online platform for purchase and sale/mobile applications (14.0%) and social networks (e.g. Facebook pages of shops, markets, farmers) - 18.3%. Some studies argued that online food delivery platforms connected restaurants owners, and customers who wish to order meals and receive them at

home or office (Segura & Correa, 2019) [37] which was also chosen by some of our respondents through applications as Takeaway.com and glovoapp.com, instead of direct order from the restaurant website (only 0.2% of the participants). All the listed preferences in our survey fall among the channels for internet sales of food as described by the EC-SANTE (2018) [13]: own website of producer, trader (intermediary) or retailer's website and online platforms while retailers and individuals without a website may sell their products via sales platforms or social media networks. In the last years, due to the emergence of mobile devices with wireless technologies especially in the hospitality industry, there was a significant advancement of food ordering systems (Hatim et al., 2019) [20], causing a boom in online ordering and delivery traffic (Ganapathi & Abu-Shanab, 2020) [14]. Huge changes in consumers' purchasing process were attributed to electronic trade and digital marketing (Pınarbaşı & Akpınar, 2020; Sulaiman et al., 2020) [32, 42] as the use of social media and mobile applications for food orders appear to enhance the online sales of business operators to the community (Mohamed et al., 2022) [30], especially small entrepreneurs on the food market (Bruma et al., 2020) [7]. This approach is extremely important for countries like Bulgaria as almost 90% of the enterprises in the national agri-food sector are small or medium-sized (Kirechev & Petev, 2021) [24].

The tendency in increasing e-trade in food and food products was confirmed through our study as well – the use of online platforms and mobile food delivery applications was statistically significantly dependent on the consumers' changes in their purchasing behaviour in the period when the Corona virus outbreak was registered and afterwards ( $t[468] = 8.388, p = 0.000$ ). Similar changes in the society were found by Njomane & Telukdarie (2022) [31] who reported that more than 80% of the consumers shifted towards e-shopping during the Covid-19 epidemic. These results fully coincided with our survey as 83.6% of the respondents confirmed their changing shopping attitudes

during the corona virus health crisis toward online channels instead of conventional markets and retail outlets, thus weakening the HoReCa sector (hotels, restaurants, bars, catering businesses) (Dudek & Śpiewak, 2022) [12]. As market channels were shut down during the pandemic, food business operators and farmers had to urgently seek other alternative outlets to sell out their perishable goods, thus contributing to the shift in the purchasing intentions of the clients (Kamel et al., 2020) [22]. The way the consumers` behaviour changed during the Covid-19 outbreak was related by Sheth (2020) [39] to growing use of digital technologies and over-stocking of goods at home, confirmed also by Wang & Gao (2021) [45] who reported increased demand in food. Based on the findings of Njomane & Telukdarie (2022) [31] the recorded increased amounts of consumed food were effects from the epidemic due to boredom and wastage.

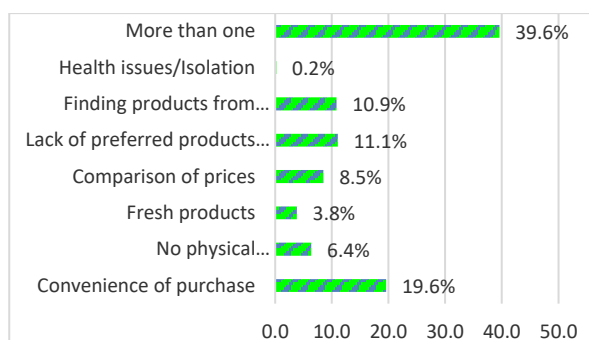


Fig. 1. Main factors that motivate consumers to choose e-shopping

Source: Author`s data from the questionnaire survey.

The aforementioned changes in purchasing behaviour in favour of online shopping could be explained with several reasons (Fig. 1): convenience of purchase like easy order and timely delivery to home/office (preferred by 19.6% of our respondents); lack of preferred products on the conventional market (11.1%); finding products from distant markets, e.g. from different residence (10.9%); possibility for comparing product prices between different e-channels (8.5%); no need for physical attendance to the markets (6.4%) which could also be combined with the lockdown/isolation measures during the Covid-19 outbreak (0.2%). Similar motives were reported by other authors with focus on

the restriction on in-person shopping and social distancing (Schmidt et al., 2020; Njomane & Telukdarie, 2022) [31, 36] and convenient delivery at the doorstep (Belya et al., 2019; Hatim et al., 2019) [6, 20] with decreased visit frequency to markets (Cranfield, 2020; Vall et al., 2021; Hambardzumyan & Gevorgyan, 2022) [9, 43, 18]. Known that food purchasing is income-related, in the terms of food insecurity and expected income reductions during the crisis (Godrich et al., 2022) [16], people were also expected to fall in demand for some premium priced food products towards some other value-priced and non-niche equivalents (Cranfield, 2020; Husain et al., 2020; Barman et al., 2021; Godrich et al., 2022) [9, 21, 5, 16] and compare the prices of food products between the online food platforms as stated in our survey. One of the factors with statistical significance that drove the consumers` toward adoption of e-shopping behaviour during the Covid-19 epidemic was the lack of particular preferred goods on the conventional markets ( $t[470]= 26.320, p=0.000$ ). The explanation could be found in the disruption of food supply chains at each stage of farm output and food processing, transportation and logistics (Deconinck et al., 2020) [11] due to the lockdown policies and the obstacles for the international trade (Sterev, 2021) [41].

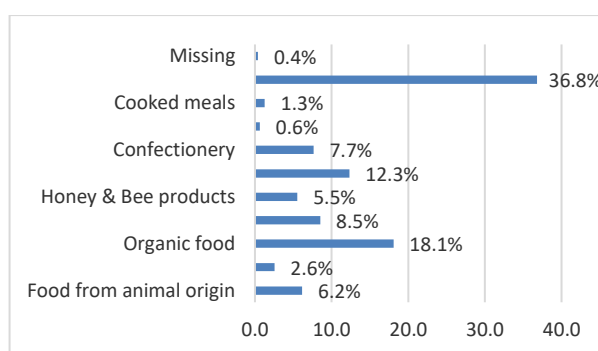


Fig. 2. General types of conventional and organic food products purchased via e-channels

Source: Author`s data from the questionnaire survey.

The categories of product purchased online in our survey varied a lot (Fig. 2). There was a relatively high demand for organic food (18.1%); medicinal food or food supplements (12.3%) and similar shares for delicacies (8.5%) and confectionery (7.7%). Among the

consumers' preferences were also products from animal origin, e.g. dairy and meat (6.2%), honey and bee products as well (5.5%) with a very small share for fresh fruits and vegetables (2.6%). Here we have to emphasize that the national agri-food sector is key to the Bulgarian economy, accounting for about 20% of industrial output (Kirechev & Petev, 2021) [24] with the following structure of the agri-food sub-sectors: the largest production for bread, bakery and confectionery and meat processing, which account for over 10% of final output, followed by dairy and fruit and vegetable production. This structure could explain the distribution of preferences among our respondents whose types of online purchased food followed the same pattern. In comparison, Dudek & Śpiewak (2022) [12] argued that the population diet affected by the Covid-19-epidemic changed towards less use of meat and inclusion of more grain products and easily stored goods with long expiration date. Karunarathna et al. (2022) [23] also reported that consumers have placed a premium on foods with a lengthy shelf life, such as canned meals, pasta, milk, while Cranfield (2020) [9] saw a rise in demand for ingredients used in baking perhaps due to people seeking self-sufficiency in light of the pandemic (i.e., insourcing the preparation of what usually is bought in a prepared form). Similarly, to our respondents' preferences for delicacies and confectionery, Limon (2021) [28] reported that products sold in great numbers through online channels were mainly baked goods and desserts, followed by savoury snacks, meat, poultry and seafood dishes. On the contrary, Wang & Somogyi (2018) [46] found that the main preferences for e-shopping were for imported food and snack with a weaker interest in fresh products like vegetables, meat, eggs. On the other hand, differences among consumers' choices of online-sold food was found to be influenced by their desire to eat better meals and keep healthier diet (Dawson & Golijani-Moghaddam, 2020; Snuggs & McGregor, 2021) [10, 40] thus turning towards natural food items that provide nutritious, such as whole grains, vegetables, fruits, etc. (Aday & Aday, 2020;

Lambert et al., 2021) [1, 25], while for our respondents fruits and vegetables accounted less. However, their healthier lifestyle during the epidemic was maintained to some extent through purchasing of medicinal foods and food supplements ( $t[468]= 31.315, p=0.000$ ). The attitude toward healthier diet was extended further through the purchase of organic products by our respondents. The consumers' desire for "better" food is based on the perceived understanding that organic farming and production is a more sustainable system delivering better-tasting, healthier and safer food than that produced by non-organic methods (Wright & McCrea, 2007; Qi et al., 2020; Chaturvedi et al., 2021) [47, 34, 8]. Our respondents' preferences for organic products could be also explained with the growing public awareness on the "Farm to Fork Strategy" of the European Commission that endorsed organic farming systems for a fair, healthy and environmentally friendly food system (Prache et al., 2022) [33].

## CONCLUSIONS

Food security is a global concern due to the disruption in its four dimensions (availability, access, utilization, stability) after the Covid-19 outbreak in many developed and developing countries and its consequences for the agri-food sector. The study focused on the stage of food availability through innovative approaches like online food shopping, resulting in a profound transformation in the food system. The respondents were accustomed to several types of online channels for buying a diverse range of raw, processed and fresh products. The stimuli behind the online purchasing intentions were strongly influenced by the Covid-19 epidemic, mainly for personal convenience but also for safety issues and desire for healthier and green diet.

## ACKNOWLEDGEMENTS

The author expresses her gratitude to all the participants who filled in the questionnaire. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

REFERENCES

- [1]Aday, S., Aday, M. S., 2020, Impact of COVID-19 on the food supply chain. *Food Quality and Safety*, 4(4), 167–180. <https://doi.org/10.1093/fqsafe/fyaa024>
- [2]Alam, Md. H., 2019, Impact of E-Trade: European Journal of Engineering Research and Science 4, no.9: 174–76. <http://dx.doi.org/10.24018/ejers.2019.4.9.1542>.
- [3]Alcedo J., Cavallo A., Dwyer B., Mishra P., Spilimbergo A., 2022, E-commerce During Covid: Stylized Facts from 47 Economies. IMF Working Paper/22/19/. Publ.: International Monetary Fund.
- [4]Arcidiacono, D., 2018, Promises and Failures of the Cooperative Food Retail System in Italy. *Social Sciences* 7, no. 11: 232. <https://doi.org/10.3390/socsci7110232>
- [5]Barman, A., Das, R., De, P. K., 2021, Impact of COVID-19 in food supply chain: Disruptions and recovery strategy. *Current Research in Behavioral Sciences*, 2, 100017. <https://doi.org/10.1016/j.crbeha.2021.100017>
- [6]Beliya A., Kujur R., Verma M., Nagwanshi K. V., Sahu S., Uikay N., Bhat A. A., 2019, Satisfaction of consumers by using online food services, *International Journal of Humanities and Social Sciences (IJHSS)* Vol. 8(4), 35-44.
- [7]Bruma, I.-S., Dinu-Vasiliu, C., Tanasa, L., Dobos, S., 2020, Social media for the organic food consumers' behaviour and its impact upon the development of digital tools for small farmers in Romania, *Ecoforum*, Vol.9 (3), 23.
- [8]Chaturvedi, A., Chand, M. R., Rahman, M. (2021). Impact of the COVID-19 on consumer behavior towards organic food in India. In: Predictive and preventive measures for Covid-19 pandemic (pp. 127-148). Springer Nature Singapore Pte Ltd. [https://doi.org/10.1007/978-981-33-4236-1\\_8](https://doi.org/10.1007/978-981-33-4236-1_8)
- [9]Cranfield, J. A. L., 2020, Framing consumer food demand responses in a viral pandemic. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*. 28:10.1111/cjag.12234. doi: 10.1111/cjag.12234.
- [10]Dawson, D.L., Golijani-Moghaddam, N., 2020, COVID-19: psychological flexibility, coping, mental health, and wellbeing in the UK during the pandemic. *J. Context. Behav. Sci.*, 17 (2020), pp. 126-134, 10.1016/j.jcbs.2020.07.010
- [11]Deconinck, K., Avery, E., Jackson, L. A., 2020, Food Supply Chains and Covid-19: Impacts and Policy Lessons. *EuroChoices*, 19(3), 34–39. <https://doi.org/10.1111/1746-692X.12297>
- [12]Dudek, M., Śpiewak, R., 2022, Effects of the COVID-19 Pandemic on Sustainable Food Systems: Lessons Learned for Public Policies? The Case of Poland. *Agriculture*, 12, 61. <https://doi.org/10.3390/agriculture12010061>
- [13]EC-SANTE (European Commission-DG Health and Food Safety), 2018, Overview report Official Controls on Internet Sales of Food in EU Member States. Luxembourg: Publications Office of the European Union. doi:10.2772/57153
- [14]Ganapathi, P., Abu-Shanab, E. A, 2020, Customer Satisfaction with Online Food Ordering Portals in Qatar. *International Journal of E-Services and Mobile Applications (IJESMA)*, IGI Global, vol. 12(1), 57-79.
- [15]Genchev, E., 2020, Assessment of e-commerce in Bulgaria and European Union trends. *Trakia Journal of Sciences*, Vol. 18, Suppl. 1, pp 354-358. doi:10.15547/tjs.2020.s.01.060
- [16]Godrich, S. L., Lo, J., Kent, K., Macau, F., Devine, A., 2022, A mixed-methods study to determine the impact of COVID19 on food security, food access and supply in regional Australia for consumers and food supply stakeholders. *Nutrition Journal*, 21(1), 17. <https://doi.org/10.1186/s12937-022-00770-4>
- [17]Gombkötő, N., 2017, International Trade in Agricultural and Food Products. IRACST – International Journal of Commerce, Business and Management (IJCBM), Vol. 6, No.3.
- [18]Hambardzumyan, G., Gevorgyan, S., 2022, The impact of COVID-19 on the small and medium dairy farms and comparative analysis of customers' behavior in Armenia. *Future Foods* 5 : 100110
- [19]Hassen, T. B., El Bilali, H., Allahyari, M. S., 2020, Impact of covid-19 on food behavior and consumption in Qatar. *Sustainability*, 12, 6973. <https://doi.org/10.3390/su12176973>
- [20]Hatim, S. M., Zamani, N. A. M., Latif, L. M. A., Kardri, M. A., Ahmad, N., Kamaruddin, N., Hussain, A., 2019, E-FoodCart: An Online Food Ordering Service. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*. Vol. 8(4).
- [21]Husain, A., Sandström, S., Greb, F., Agamile, P., 2020, Economic and food security implications of the COVID-19 outbreak: An update focusing on the domestic fallout of local lockdowns. *World Food Programme* (1–19)
- [22]Kamel, M., Chemseddine, B. A., Hamid, F., 2020, The Impact Of Covid-19 Pandemic On Food Security. *Les Cahiers du Cread*, Vol. 36(3), DOI: 10.6084/m9.figshare.13991939.v1
- [23]Karunaratna, N., Siriwardhane, D.R.J., Jayarathne, P. G. S. A., 2022, Extraordinary Strains in Food Supply Chains: A Literature Review on COVID-19 Induced Food Supply Chain Disruptions and Resilience. *Proceedings of the First Australian International Conference on Industrial Engineering and Operations Management*, Sydney, Australia, December 20-21, 2022.
- [24]Kirechev, D., Petev, A., 2021, Sustainability of the Food System - Contemporary Challenges and Problems for Bulgaria. *Izvestia Journal of the Union of Scientists-Varna, Economic Sciences Series*, Vol.10(3), 185-193.
- [25]Lambert, S. R., Elamin, N. E.A., de Cordoba, S. F., 2021, Build-Back-Better from COVID-19 with the adoption of Sustainability Standards in Food Systems. *United Nations Conference on Trade and*

- Development.UNCTAD Research Paper No. 61. UNCTAD/SER.RP/2021/4
- [26]Latip, M. S. A., Newaz, F. T., Mohamad, M. A., Tumin, S. A., Rahman, N. F. A., Noh, I., 2021, The Moderating Effect of Food Safety Knowledge on Organic Food Purchase Intention in a New Normal. *Pertanika J. Soc. Sci. & Hum.* 29 (4): 2281 - 2299
- [27]Latip, M. S. A., Newaz, F. T., Ramasamy, R., Tumin, S. A., Noh, I., 2020, How do food safety knowledge and trust affect individual's green considerations during the COVID-19 pandemic in Malaysia? *Malaysian Journal of Consumer and Family Economics*, 24, 261-285.
- [28]Limon, M.R., 2021, Food safety practices of food handlers at home engaged in online food businesses during COVID-19 Pandemic in the Philippines. *Current Research in Food Science*, Vol. 4, 63-73. <https://doi.org/10.1016/j.crfs.2021.01.001>
- [29]Lugo-Morin, D. R., 2020, Global Food Security in a Pandemic: The Case of the New Coronavirus (COVID-19). *World* 2020, 1, 171–190; doi:10.3390/world1020013.
- [30]Mohamed, R.N., Sawangchai, A., Rusli, M. S., Borhan, H., 2022, Factors Influencing the Online Food Delivery Services Apps on Purchase Intention Among Customers In Klang Valley, Malaysia During COVID-19. *Journal of Marketing Management and Consumer Behavior*, Vol. 4(1), 23-34.
- [31]Njomane, L., Telukdarie, A., 2022, Impact of COVID-19 food supply chain: Comparing the use of IoT in three South African supermarkets. *Technology in Society* 71:102051. doi: <https://doi.org/10.1016/j.techsoc.2022.102051>.
- [32]Pinarbaşı, F., Akpınar, H. M., 2020, E-Trading Decision Making: An Integrated Digital Marketing Approach With Theory and Cases. In: *Tools and Techniques for Implementing International E-Trading Tactics for Competitive Advantage*. Publisher: IGI Global. DOI: 10.4018/978-1-7998-0035-4.ch009
- [33]Prache, S., Lebret, B., Baéza, E., Martin, B., Gautron, J., Feidt, C., Médale, F., Corraze, G., Raulet, M., Lefèvre, F., Verrez-Bagnis, V., Sans, P., 2022, Review: Quality and authentication of organic animal products in Europe. *Animal*, Vol. 16, Supplement1. <https://doi.org/10.1016/j.animal.2021.100405>.
- [34]Qi, X., Yu, H., Ploeger, A., 2020, Exploring influential factors including COVID-19 on green food purchase intentions and the intention– behaviour gap: A qualitative study among consumers in a Chinese context. *International Journal of Environmental Research and Public Health*, 17(19), 1-22. <https://doi.org/10.3390/ijerph17197106>
- [35]Rathore, S. S., Chaudhary, M., 2018, Consumer's Perception on Online Food Ordering. *International Journal of Management & Business Studies*, Vol., 8(4).
- [36]Schmidt, C., Goetz, S.J., Rocker, S.J., Tian Z., 2020, Google searches reveal changing consumer food sourcing in the COVID-19 pandemic. *Journal of Agriculture, Food Systems, and Community Development*, Vol. 9(3), 9–16.
- [37]Segura, M. A, Correa, J. C., 2019, Data of collaborative consumption in online food delivery services. *Data Brief.* 23; 25:104007. doi: 10.1016/j.dib.2019.104007.
- [38]Sethu, H.S., Saini, B., 2016, Customer Perception and Satisfaction on Ordering Food via Internet, a Case on Foodzoned.Com, in Manipal. *Proceedings of the Seventh Asia-Pacific Conference on Global Business, Economics, Finance and Social Sciences (AP16Malaysia Conference) Kuala Lumpur, Malaysia.* 15-17, July 2016. Paper ID: KL631
- [39]Sheth, J., 2020, Impact of Covid-19 on consumer behavior: Will the old habits return or die? *J Bus Res.* 117:280-283. doi: 10.1016/j.jbusres.2020.05.059.
- [40]Snuggs, S., McGregor, S., 2021, Food & meal decision making in lockdown: how and who has Covid-19 affected? *Food Qual. Pref.*, 89 (2021), 10.1016/j.foodqual.2020.104145
- [41]Stereov, N., 2021, Economic impact of COVID-19 pandemic: case of Bulgaria. *SHS Web of Conferences* 120, 02005. *Business and Regional Development*, <https://doi.org/10.1051/shsconf/202112002005>
- [42]Sulaiman, E., Derbani, A., Adawiyah, W. R., 2020, Digital Marketing in Culinary Tourism : A Case of Micro, Small and Medium Enterprises (MSMEs) in Indonesia. *Proceedings of the 2nd International Conference of Business, Accounting and Economics, ICBAE 2020, 5 - 6 August 2020, Purwokerto, Indonesia.* DOI 10.4108/eai.5-8-2020.2301123
- [43]Vall, E., Mburu, J., Ndambi, A., Sall, C., Camara, A. D., Sow, A., Ba, K., Corniaux, C., Diaw, A., Seck, D., Vigne, M., Audouin, S., Rakotomalala, L. J. E., Rakotonoeily, L. N., Ferreira, F. D., Véromalalanirina, E., Rajaonera, M., Ouédraogo, S., Sodr e, E., Tall, I., Ilboudo, M. D., Duteurtre, G., 2021, Early effects of the COVID-19 outbreak on the African dairy industry: cases of Burkina Faso, Kenya, Madagascar, and Senegal. *Cahiers Agric.*, 30 (14). 10.1051/cagri/2020047
- [44]Voicilas, D. M., Alboiu, C., Alexandri, C., Gavrilesu, C., Iulian, I., 2017, The competitiveness of the agri-food chains in the European Union. Voicilaş D. M. (coord.). *Romanian Academy Press House, Romania.*
- [45]Wang, E., Gao, Z., 2021, The Impact of COVID-19 on Food Stockpiling Behavior over Time in China. *Foods* 10(12):3076. doi: 10.3390/foods10123076.
- [46]Wang, O., Somogyi, S., 2018, Consumer adoption of online food shopping in China. *British Food Journal*, Vol. 120 No. 12, 2868-2884. <https://doi.org/10.1108/BFJ-03-2018-0139>
- [47]Wright, S., McCrea, D., 2007, *The Handbook of Organic and Fair Trade Food Marketing*. Blackwell Pub. DOI: 10.1002/9780470996096
- [48]Xu, Z., 2019, Food Dependency and Global Food Crisis. *International Critical Thought*, 9:2, 269-281. DOI: 10.1080/21598282.2019.1613920

