



## Effect of COVID-19 Pandemia Period on Consumers' Buying Behavior of Food Products: A Literature Review

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### ABSTRACT

This study aims to explain the effects of the COVID-19 pandemic on consumers' buying behavior of food products by reviewing the literature with a deductive approach. Based on the current literature, it can be said that the perceived pressure of the consumers is arising from isolation, quarantine, and lockdown, brings economic and psychological uncertainty. As a result, consumers' tendency to hoard basic needs like food products may increase. This unexpected increase may also cause fluctuations in the supply and demand balance. Because of these fluctuations, people may have trouble accessing the goods they need.

**Keywords:** COVID-19, pandemic, consumer behavior, food product, hoarding

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### Introduction

From the beginning of the COVID-19 pandemic, consumer behavior has changed dramatically. Due to isolation, consumers have become distant from the retail points and crowded places to avoid the virus infection risk. As a result of the change in consumer consumption routine, many firms had to stop their commercial activities permanently or temporarily. Panic has arisen from the concerns about the products' availability, which drove some consumers to hoard, mainly for hygiene, food, or medical products. On the other hand, consumers also choose contactless or online shopping to avoid the virus and buy more than they need to caution rising prices and depletion risk of products. It can be said that the warnings of the state have also got an effect on such behaviors of consumers.

Since the employees cannot leave their houses and the consumers delay or cancel their buying decisions, both supply and demand have been decreased in industries like hospitality, entertainment, and food service. On the other hand, industries like mining faced excess supply. Since now, it is not clear how long it would take for these anomalies to become normal again.

The uncertainty brought by the pandemic causes distrust and concern about the economy. This mood may have a negative effect on the consumption decisions of the consumers. In this case, consumers may decide to delay or retract their requests and needs for taking themselves under preservation.

Conversely, the consumers seem to stockpile food, hygiene, and medical products during this period.

In this research, the consumer behavior frame has been applied to understanding the financial results and reflections of the COVID-19 pandemic.

## General Review of COVID-19 Pandemic

Coronaviruses are infamous for the epidemics they cause. In the last 20 years, there have been two known coronavirus epidemics happened.<sup>2</sup>

The first of these epidemics, named SARS-CoV, started in China in 2002 and resulted in 8000 cases and 800 deaths.<sup>3</sup> The second one, named MERS-CoV, began in Saudi Arabia in 2012 and resulted in approximately 2500 cases and 800 deaths.<sup>4</sup> Another serious epidemic called H1N1 (aka. Bird flu virus) showed up in 2009 and had severe consequences.<sup>5</sup>

Coronavirus belongs to a large RNA family, and members of this family have caused a high level of mortality in large populations with the severe acute respiratory syndrome. These pathogens are zoonotic, which animals transmit to humans.<sup>6</sup>

China informed the World Health Organization (WHO) on 31 December 2019 that an unknown upper respiratory influence has been detected in Wuhan, which is spreading far and wide. That was the day when the COVID-19 came up globally.<sup>7</sup> WHO announced a new virus called 2019-nCoV was the reason for the influence on 12 January 2020, the name of the virus was changed by WHO to SARS-CoV-2 on 11 February 2020.<sup>2</sup> The virus spread worldwide very fast and became a pandemic.<sup>8</sup>

COVID-19 Pandemic, which has already spread over 30 countries until now, is different from other diseases by its infectiousness rate during the incubation period.<sup>9</sup> Except Canada, which had its first death case of COVID-19 on 7 February 2020, every G7 country had a death case until January 2020. According to the COVID-19 statistics announced by the governments, it is possible to say the epicenter of the disease moved from China to Europe and then the USA at the time.<sup>10</sup> On the other hand, these statistics only cover the positive test results, so the actual number of infected people is probably higher than the announced one.<sup>11</sup>

Even though the effects of the COVID-19 epidemic may vary from country to country, it can be said that some countries are

more successful than others in narrowing down the spread of the pandemic.<sup>12</sup>

COVID-19 pandemic has different effects in every country. While the USA faced a lot of deaths and economic shrinkage<sup>13</sup>; Germany has managed the period more efficiently<sup>14</sup> based on the mortality rate and economic data. On the other hand, South Korea has applied technological methods like following the infected people through online systems to resist spreading the disease.<sup>15</sup>

Along with the contagion of the pandemic, the Ministry of Health of the Turkish Republic (MHTR) has established a scientific committee for the pandemic and published the COVID-19 Pandemic Guide.<sup>16</sup> Then, MHTR decided to take the temperature of the passengers from China at the airport with the thermal cameras. On 30 January 2020, the flights from China and flights to 16 countries were canceled by the state of emergency declared by the MHTR. Also, people from abroad are taken in the quarantine at the student hostels for 14 days. <sup>17</sup>

After the first case was detected in Turkey; some restrictions were applied by order of MHTR for the crowded places, a break has given for the face to face education on 16 March 2020, and a strict lockdown has ordered for the people over 65 years old, flights for 71 countries have halted, and the constructions have been completed for the pandemic hospitals immediately by the end of March 2020.<sup>18</sup> After the dramatic increase in the number of cases, MHTR has revived some new serious precautions. These precautions are lockdown for people younger than 20 years old, 31 cities have been taken under quarantine by closing the entrances and exits, lockdowns have applied for the weekends all over the country, and wearing masks mandatory. Additionally, the government froze the price of some products (like face masks) because of the price manipulations in the market. <sup>16</sup>

Turkish Ministry of Health has applied the filiation method that has proven positive results in preventing the pandemic.<sup>19</sup> Filiation methods had been applied successfully for the SARS, MERS, and Ebola diseases. As a medical term, filiation means systematically following up with the infected individuals to prevent them from transmitting the virus to other people and breaking the disease chain.<sup>20</sup>

Table-1 shows the current state of the COVID-19 Pandemic in Turkey.

**Table 1.** Current state in Turkey on 6 May 2020, Resource: COVID-19 Guide of the Turkish Ministry of Health

Total COVID-19 Tests Made	2.267.412
Total Cases	168.340
Total Cases Resulted in Death	4.648
Total Intensive Care Patient	592
Total Intubated Patient	269
Total Recovering Patient	133.400

## Global Effects of Pandemic

Modern economies are complex interdependent networks. There are so many actors in these networks, such as employees, firms, suppliers, consumers, banks, etc. Each of these actors is a customer, employee, and/or creditor of another actor. Therefore the crises brought by pandemics cause a devastating domino effect in both singular and collective ways.<sup>21</sup>

According to the World Economic Forum, the world economy has 12% shrinkage between January 2020 to March 2020.<sup>22</sup> Many countries have declared cautionary economic packages to prevent this shrinkage and ensure the economic balance. The Turkish government announced the “Economic Stability Shield” package on 18 March 2020. The size of this package was 100 billion Turkish Liras.<sup>23</sup>

Transportation opportunities governments limited transportation services globally and locally as a precaution measure.<sup>24</sup> That issue kept employees and consumers away from the retail points.<sup>25</sup> As a result of this, economic activity has slowed down. On the other hand, the limitations on transportation services affected oil prices globally.<sup>26, 27</sup>

Munbodth<sup>28</sup> asserts that 20.000 retail stores in the United Kingdom might have to end their commercial activities and be pulled out of the market because of the pandemic. This period of the pandemic is not only a problem for the big enterprises but also the small ones.

Consumers' demand for goods and services had decreased because of the quarantine measures applied by many countries. As a result, manufacturing and supply chain activities have slowed down globally. Moreover, with the effect of increasing the unemployment level on the economic shrinkage, it is expected that the demand will keep decreasing.

The worst-case scenario for the economic impact of the COVID-19 Pandemic is the global recession.<sup>29</sup> If the COVID-19 period takes longer than expected, credit default rates may increase dramatically.<sup>30</sup>

However, another problem is the anomalies in the dysfunctional markets led and triggered by consumers and companies. The pandemic caused both supply and demand shocks. In Turkey, the price of face masks and hygiene products rose rapidly. Finally, the government had to interfere with the situation and temporarily forbade the face mask sales on 6 April 2020 and distributed by itself. The Turkish Presidency of Competition Agency also investigated the price manipulators.<sup>7,16</sup>

Supply and demand have been decreased by the consumer's retrenching their spending and firm's reduction of production.<sup>30</sup> Global financial markets are also affected by alteration, and falls have been observed in indexes. It can be said that there are two types of consumers and firms in this case. The first type is the farsighted ones who make decisions based on expectations, and the second type is those who think simple and try to reach the optimum in the long term.<sup>24</sup>

Some researchers are comparing the pandemic results with the Great World Depression of 1929, yet some are expecting a “Greater Depression”<sup>32</sup> at the end of the period. Conversely, some other researchers insist that these are entirely different issues since the pandemic is a natural disaster.<sup>31</sup> After all is said and done, every single country, institution, industry, firm, and person has been affected negatively by this period.

## General Effects of COVID-19 Pandemic on the Consumer Behavior

COVID-19 brings uncertainty to the global markets, affecting consumer decision processes. Consuming occurs when a person needs or wants something. Need is anything necessary for a person to maintain his/her life. If these necessities are not fulfilled at a certain level, the person may totter to continue his/her existence. Wants are desires, wishes, aspirations, and/or tendencies and they do not include any necessity.<sup>33</sup> We have decided to build this research on needs because of their inevitable character.

There are two widely accepted approaches for defining human needs. The first one is Maslow's<sup>34</sup> Theory of Hierarchy of Needs, which has five ladders. The second one is Alderfer's<sup>35</sup> ERG Theory which has three ladders.

COVID-19 pandemic may cause unsatisfied needs from Maslow's<sup>34</sup> Hierarchy of Needs.

These unsatisfied needs from each level of the hierarchical pyramid and the reason for their unsatisfied state might be as below:

- The physiological needs level has been threatened because the pandemic may cause a health impairment.
- Safety needs level has threatened since the pandemic period brings economic uncertainty and problems
- Because of the isolation measurements, people became more distant, and that issue threads the social needs level
- Since the natural flow of life has been interrupted, esteem and self-actualization steps had threatened.

ERG Model of Alderfer<sup>35</sup> defines the human needs for three levels. These levels are existence needs, relatedness needs, and growth needs. It could be said that the pandemic is a threat to all three levels of Alderfer's ERG.<sup>35</sup>

- Since the COVID-19 Pandemic is a fatal disease, the existence needs level had hung by a thread,
- Isolation, quarantine, and lockdown measures may cause an interruption for the level of relatedness,
- The growth needs may get affected by the difficulties of reaching critical goods because of the problems in the distribution and manufacturing systems.

According to Starr<sup>36</sup>, consumer expenses for food, health, and sheltering needs increase during economic stagnation. The reason for this situation is the rising anxiety of the consumers for the perceived risk of unsatisfying their basic needs because of the lack of monetary funds. Bohlen et al. <sup>37</sup> emphasize that consumers move through existential purchases from expensive and arbitrary spending. To sum up, consumers behave strategically based on their sources' level.

Consumer behavior may differ for each economic boom, stagnation, and recovery phase. Consumers tend to cook at home in the stagnation phase, avoid buying white appliances and emphasize paying their rent. <sup>38</sup>

Consumer behavior is getting affected according to Maslow's Hierarchy of Needs <sup>34</sup> and Alderfer's ERG approach <sup>35</sup> since they cannot satisfy their needs properly due to the devastating effects of the economic stagnation brought by the COVID-19 Pandemic.

Consumers are expected to strive to supply and keep a certain amount of goods to satisfy their physiologic (by the definition of Maslow<sup>34</sup>) or existential (by the definition of Alderfer<sup>35</sup>) needs. Consumers may delay or change their fourth- or sixth-level needs in the present case.

## Consumers' Buying Behavior of Food Products and COVID-19 Pandemic Period

Even though very few effects of COVID-19 on consumer behavior are known, for now, it is evident that the amount of homemade food has increased since the restaurants cannot serve it in their places. So, out-of-home consumption of the food has been decreasing, which brings an increase in the amount of retail food product sales. The manufacturers had to dislocate their goods from restaurants to retail points in this case. The logistic systems were caught unprepared for this unexpected situation, and some distribution problems occurred.<sup>39</sup>

Another critical fact brought about by the COVID-19 pandemic is the rising tendency for hoarding, especially food and hygiene products. Because of the anxiety state of the pandemic, the unexpected hoarding attack of consumers causes a demand shock in the retail market.<sup>40</sup> According to Long and Khoi<sup>41</sup>, there is a positive correlation between consumers' perceived risk and hoarding tendency. Research in Sweden between 10 March 2020 and 19 March 2020 shows that consumers were buying food products more than usual.<sup>42</sup> This unexpectedly high amount of stockpiling of consumers finally led to depletion on 16 March 2020, and probably this depletion has stopped the stockpiling attack for a while.<sup>42</sup> In Canada, consumers' expectations of a more extended quarantine period made them deplete almost every meat aisle in the retail stores, and that caused inventory stockouts.<sup>39</sup> According to research made in Germany on 1242 people, 14% of the attendants indicated that they stockpiled a high amount of durable foods (like legumes, rice, pasta, or canned foods).<sup>43</sup> Consumers lost their rational state with the panic spread and began stockpiling more than needed. That led to restraining other people from getting the resources by a fast stock depletion on the retailers.<sup>41</sup> An essential motive for consumers to make stockpile is disinformation spread by unfounded news and rumors, which increase people's perceived risk and anxiety.<sup>44</sup>

Researches show that consumers prefer to buy long-life foods (like frozen or canned foods) rather than fresh foods. It is assumed that the demand for such long-life foods can increase since the consumers are getting used to consuming these goods more and more in their daily life because of the pandemic. <sup>45</sup>

Consumers became more interested in healthy foods by the pandemic<sup>45</sup> and began considering the nutritional value of the foods they buy.<sup>46</sup> It can be expected to see an increase in demand for the institutions that serve obesity and obesity alike diseases. Consumers have changed their way of nutrition to enhance immunity to avoid COVID-19 and the lack of physical activity because of the lockdowns.<sup>44</sup>

By the growing concern of infection, consumers are avoiding physical contact with other people in the retail points. That brings an increasing demand for food products on online channels. For example, the online food selling rate was 1,5% before the pandemic, but this rate raised to 9% by the third week of March 2020 in Canada. <sup>45</sup>

Since consumers spend more time than ever at home because of the isolation and quarantine, they can evaluate many product alternatives online. This situation brings an ethical and social duty for the companies to manage the B2C information flow correctly and adequately for the products to them away from wrong buying decisions. The messages given by the companies should be anxiety-reducing, evidence-based, and consumer-friendly.<sup>44</sup>

## Discussion and Recommendations

Since nutrition is a physiological and existential need, food consumption is inevitable for humans. With the beginning of the COVID-19 Pandemic, one of the most salient problems consumers encountered was the method of maintaining food consumption in this new normal. Hoarding, having more online shopping, avoiding eating outside, and cooking more at home are some results of this problem. We believe the Theory of Planned Behavior and Technology Acceptance Model will provide a basis for explaining these results.

According to the Theory of Planned Behavior, there are three determiners for the intention: attitude, subjective norm, and perceived behavioral control (Figure-1).<sup>47</sup>

The intention is a personal positive or negative evaluation of the results of behaving in a certain way.<sup>48,49</sup> Consumers' level of perceived risk may arise for acquiring fundamental needs because of the isolation and lockdown measures of the COVID-19 Pandemic period. The subjective norm is a social pressure on the person to behave differently.<sup>50</sup> From the beginning of the pandemic, probably every single person has been warned and oppressed by the other people in their social circle to prevent themselves from the disease. People younger than 20 and over 65 years old would feel that pressure more than others since the authorities' precaution messages usually target them in Turkey. Perceived behavioral control is about the abilities and resources of the person to behave in a certain way.<sup>47,51</sup> Lockdown and isolation measures applied by the governments restrict people and decrease perceived behavioral control. Also, the uncertainty of the period may affect perceived behavioral control negatively. Presumptively the constituents of the planned behavior may motivate consumers to avoid the crowded places (such as retail stores like groceries, malls, supermarkets, etc.) with the high infection risk, online stockpiling and hoarding for passing the isolation and lockdown period without having a problem with the household resources and consuming healthy foods for boosting their immune system against the infection risk.

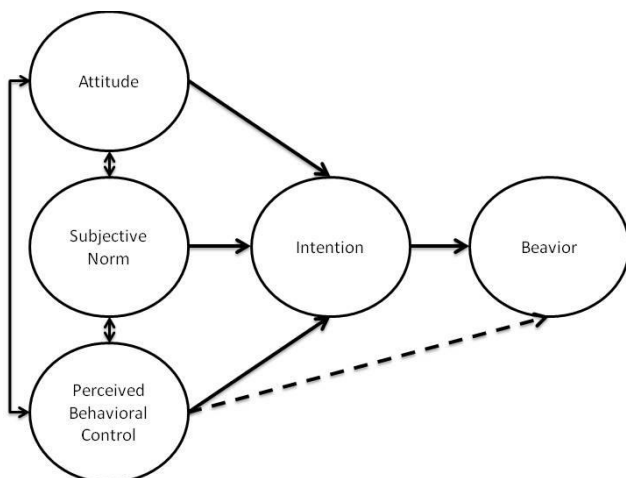
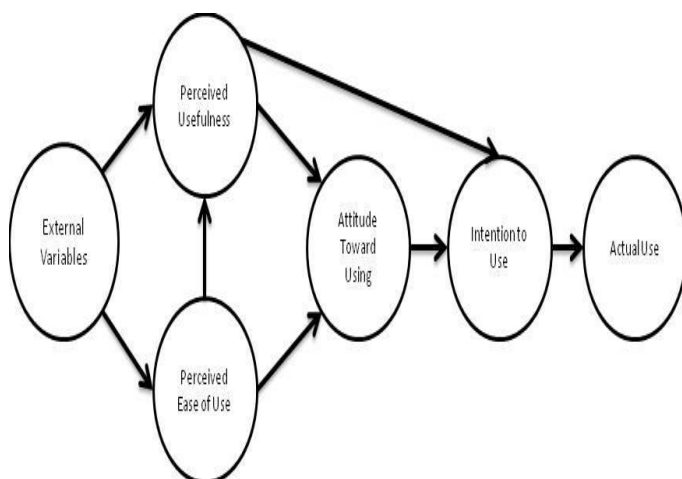


Figure 1. Theory of Planned Behavior, Resource: Ajzen, 1991:182

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**Figure 2.** Technology Acceptance Model, Resource: Davis vd., 1989: 985

Despite these adverse circumstances, the consumers still have to consume to satisfy their physiological and existential **34,35** needs. Thus, the rise in the online shopping rate is the social distance, isolation, quarantine, and lockdown measures. One of the most valuable pieces of evidence for proving this claim is the statistics shared by the Turkish Interbank Card Center (TICC). Based on the statistics of TICC, 24% of the payments made by credit cards were for online shopping. On the other hand, 5 million cards were used for the first time for online shopping between March 2020 to April 2020.**52** Additionally, retailers have brought their logistics system into conformity with online shopping systems. This action of the retailers is a sign of their expectation of the boost of online shopping. Consumers increased demand for online shopping can be explained by using the “Theory of Planned Behavior” of Ajzen that has its roots in the “Reasoned Action Model”**53** of Ajzen and Fishbein and the “Technology Acceptance Model” (Figure-2) of Davis**54,55**. For this acceptance, perceived ease of use and perceived usefulness of the Technology Acceptance Model**56** significantly affect the intention of the Theory of Planned Behavior **47,48**.

From this point of view perceived usefulness of online shopping might be increased because the physical shopping possibility of the consumers is restricted. Extensive use of smartphones and the ease of internet access with these devices may encourage consumers to experience the benefits of online shopping. Since there are too many online shopping options, consumers would probably choose the ones which are less risky and more user-friendly. On the other hand, a consumer population has already experienced online shopping for the first time in their life because of the pandemic. So, the amount of online shopping should be observed after the pandemic to understand its actual effect on consumers’ online shopping behavior.

According to Lustig and Mariscal, “*The degree and duration of consumer risk aversion will depend on the virus’s behavior, the availability of effective antiviral treatment, and the wide availability of a vaccine.*”**57** For understanding the actual effects of the COVID-19 on consumer behavior, it is evident that the pandemic should be getting under control first. If a person decides to buy something but the COVID-19 interrupted it, that delayed decision will probably come true if the pandemic can be taken under control.

Herein the essential issue is understanding the reason behind the decreased demand. It might be because of a cautious wait-and-see mentality or a canceled demand. On the other hand, consumers who preferred to do online shopping should be investigated empirically to understand if they would keep shopping online after the pandemic. The near future of the “New Normal” will probably bring us the answers to these questions.

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