

# Explaining Changes in Consumer Behavior in Grocery Shopping Around the World Brought by the COVID Pandemic using Behavioral Economics

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## ABSTRACT

This article documents some of the changing consumer behaviors along with 12 existing studies presenting these behaviors. Through a literature review, this article is able to explain the changes in consumer behavior in grocery shopping around the world brought by the COVID-19 pandemic using behavioral economics, to suggest what could be done to adapt to these changes, as well as which behaviors will change and which will remain after the pandemic is over.

**Keywords:** *consumer behavior, Covid-19, behavioral economics.*

## 1.INTRODUCTION

As the COVID-19 pandemic broke out globally in early 2020, almost every aspect of people's lives in all countries was altered. One of the fields that was significantly changed by the pandemic is the grocery and retail industry, as consumers' spending patterns encountered noticeable changes during the pandemic. Until now, many studies were conducted in order to understand people's irrational behavior during the pandemic, and the purpose of this article is to explain changes in consumer behavior in grocery shopping around the world brought by the COVID pandemic using behavioral economics. Behavioral economics, diverging from traditional economics, suggests that under certain circumstances individuals are not able to make rational decisions as suggested by traditional economics. In the case of the COVID-19 pandemic, the change of consumer behavior could be explained by behavioral economics.

This article conducts a literature review to answer the research questions of 1) how did the COVID pandemic change consumer behavior in grocery shopping, 2) how should companies adapt to these changes, and 3) what consumer behaviors will change and what will remain after the pandemic. The purpose of this article is to establish understanding and provide a summary of existing research in the field of behavioral economics

regarding consumers' behaviors in grocery shopping during the COVID pandemic.

## 2.METHODOLOGY

This article aims to answer the research questions of 1) how did the COVID-19 pandemic change consumer behavior in grocery shopping and retail 2) how should companies adapt to these changes, and 3) what specific consumer behaviors in grocery shopping and retail would change and what would remain after the pandemic is over. Each question is separated into two parts. The first question is separated into "changes in behavior and reason for change" and "consequences or possible consequences". The second question is separated into "to ensure health and safety" and "to still be able to profit". The third question is separated into "change" and "remain". These questions were answered through a literature review. The literature review was set into three parts corresponding to the three research questions -- how did consumer behavior change and why, how should companies adapt, and future directions. Each part had a set of criteria for selecting the most relevant studies to answer the corresponding research question, but all parts share a common criterion of excluding studies conducted before 2020, the year in which the first severe global COVID breakout took place; however, each part emphasized studies with specific keywords. The first part, corresponding to the research question of "How did consumer behavior change since the start of the COVID-

19 pandemic" included studies with keywords "COVID-19", "consumer behavior", "spending pattern", "food consumption", and "groceries". The second part, corresponding to the research question of "How should companies adapt to these changes" included studies with keywords "COVID-19", "consumer behavior". The third part, corresponding to the research question of "What

behaviors will change and what will remain", includes studies with keywords "COVID-19", "consumer behavior", "household consumption", "retail", and "e-commerce".

### 3.RESULTS

Question 1 -- how did consumer behavior change since the start of the COVID-19 pandemic?

Article	Changes and reasons	Consequences / possible consequences
What Does Food Retail Research Tell Us About the Implications of Coronavirus (COVID-19) for Grocery Purchasing Habits? [10]	panic buying, stock-piling of groceries because of fear and uncertainty, behavior of other people, as well as rumors on the internet, customers will shorten their time spent in the supermarket	shortages of many products, change in customers' shopping habits (what brands they will buy from etc.) because time constraints could change how people make decision on what to buy, people rely on price and brand heuristics and thus tend to buy more high quality and high price products, people will plan a larger budget for food while cutting budget on other products
Grocery Shopping Preferences during the COVID-19 Pandemic (empirical findings) [5]	The rate in which the virus spreads forms a relationship with customers' likelihood to shop indoors -- the faster the virus spreads, the less likely that customers would shop indoors, the slower the virus spreads. Customers do not prefer home delivery as much as those in areas where the virus is spreading fast. one reason for this is people's fear for the virus	
Do stay-at-home orders cause people to stay at home? Effects of stay-at-home orders on consumer behavior (empirical findings) [paper removed]	retails are hit hard by stay home orders, spending on retail firms decreased by 12% within two days after the order went into effect, food delivery immediately accelerated following the order, no significant changes in non-retail	
Adapting customer experience in the time of coronavirus [1]	change in customers' life patterns (limit going out and socializing) created a change in demand patterns	change in demand pattern require companies to adapt to potentially permanent changes in consumer behaviors
I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 pandemic [7]	consumer hoarding behavior, consumer household spending increased by 845% -- hoarding behavior due to 1) fear of being caught unprepared 2) buying allow consumers to gain a slight sense of control	empty shelves which leads to more scarcity
Consumer Behaviour during Crises: Preliminary Research on How Coronavirus Has Manifested Consumer Panic Buying, Herd Mentality, Changing Discretionary Spending and the Role of the Media in Influencing Behaviour [9]	herd mentality, panic buying, change to discretionary purchasing habits because these behaviors could give customers a sense of control or due to anxiety in facing unknown situations, herding leads to irrationally inflated price of typically mundane items	panic buying could lead to vulnerable groups not having access to the popular products

Changing Behavioral Patterns in Grocery Shopping in the Initial Phase of the Covid-19 Crisis—A Qualitative Study of News Articles [4]	panic buying of long lasting products or life necessities as well as hygiene products, new shopping procedures such as taking care of hygiene, keeping safety distance, speeding up shopping, and visiting stores during less busy hours caused by increasing sensitivity towards shopping environments, investing in new service concepts such as digital services with home delivery	empty shelves which could lead to more panic buying
Changing Grocery Shopping Behaviours Among Chinese Consumers At The Outset Of The COVID-19 Outbreak [8]	consumers switching to online shopping during early stages of outbreak — originally shop at local independently owned small shops, about 23 percent switched to online shopping; originally at neighborhood supermarket, about 33.5 percent switched to online shopping; originally at farmer markets, about 38 percent switched to online shopping, disadvantaged groups like those who are older, less wealthy, and less tech-savvy are more likely to contract the disease and this could be because they have less access to digital devices and online shopping	many food retail outlets closed (between large and small cities anywhere between 35 to 52 percent)

Question 2 -- how should companies adapt to these changes in order to...

Article	Ensure health and safety	Still be able to profit
Adapting customer experience in the time of coronavirus [1]		offer genuine support such as payment relief and credit support, accelerate digital shopping and delivery
I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 pandemic [7]		retailers limited amount of product a customer could buy which gave customers a sense that the product would still be there when they need them
What Does Food Retail Research Tell Us About the Implications of Coronavirus (COVID-19) for Grocery Purchasing Habits? [10]	limit contact / number of people in supermarket, limit number of products each customer could buy, providing wipes and hand sanitizers	online shopping and delivery, make key brands and products immediately visible to customers (well known products have advantages in this case), provide customer-centric experience that do not compromise health and safety

Question 3 -- what behaviors will change and what will remain after the COVID-19 pandemic is over?

Article	Change	Remain
Personal Consumption in the United States During the COVID-19 Crisis (empirical findings) [3]	consumer behavior of households will be permanently affected, business cycles will also change, results due to people's limited mobility during the pandemic	

COVID-19 Generation: A Conceptual Framework of the Consumer Behavioral Shifts to Be Caused by the COVID-19 Pandemic [11]	production inside borders will increase because of nationalism and supply chain security, stock-up mentality and online ordering will remain after the pandemic among many people, working from home might also become a norm,	hedonism will return but socialization is likely to shrink
I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 pandemic [7]	consumer experiences are confined by home as well as virtual reality, put more emphasis on safety	
Changing Behavioral Patterns in Grocery Shopping in the Initial Phase of the Covid-19 Crisis—A Qualitative Study of News Articles [4]	if the pandemic goes on for a long time, it is likely that consumers would stick to online grocery shopping, stores are likely to remain sensitive to shopping environments especially in aspects of health and hygiene even after the pandemic is gone	
How the COVID-19 Pandemic May Change the World of Retailing [6]	change in customers' values -- values change from emphasizing fun and entertainment to health and hygiene, customers are likely to adapt to new ways of shopping such as online shopping and delivery	

## 4. DISCUSSION

### 4.1. Behavioral economics

Behavioral economics studies the effect of different external factors such as psychological, cognitive, and social factors on individuals' ability to make decisions. Behavioral economics suggests that, different from traditional economics which regard humans as individuals who are able to make rational decisions, under certain circumstances individuals are not able to make rational decisions, as they could be easily influenced by nuanced details, like suggested in the nudging theory. In the case of COVID-19 and grocery shopping, consumers displayed irrational behaviors of hoarding and stockpiling could be explained by behavioral economics, which suggest that under the circumstance of the pandemic, people are under high levels of stress and fear which leads to panic buying. People fear that, like in the game theory, if they act responsibly and purchase a reasonable amount of supplies but others won't be as responsible and would buy a unreasonably large amount of supplies. In addition, the behavior of stockpiling food and hygiene products allowed consumers to restore a sense of control during a time of sudden uncertainty. Thus, the main reasons causing panic buying are fear and stress. To adapt to and

manage this behavior, sellers could seek ways to restore consumers' sense of control and ensure everyone would be able to obtain their needed supplies as much as possible.

### 4.2. Future directions for research and limitations

More research could be done in what pre-pandemic consumer behaviors specifically in grocery shopping will remain / return after the pandemic is over as well as the effectiveness of companies' behaviors to adapt to the pandemic from a health and safety perspective. Potential limitations of this research is that there are only 12 selected studies included in this literature review, and the data collected are all qualitative data, which might not be as specific as quantitative data.

## 5. CONCLUSION

This literature review intends to synthesize existing studies on consumer behavior during COVID-19 and address these phenomenons with behavioral economics. From selected studies, this article is able to conclude that Since the start of the pandemic, consumers have been stockpiling groceries such as food and hygiene products because of high levels of stress and fear that they would be "left out". This would lead to changing demands and

inefficient distribution of resources, meaning that vulnerable groups who need these products the most would not be able to obtain them because either they are not as able to stockpile from physical stores as other consumers or they are not familiar with technology and so they would not be able to buy the products online. This might be a factor contributing to the elderly and minorities being more likely to contract the coronavirus.

Companies could adapt to this changing consumer behavior by limiting number of products each consumer could buy in order to stop stockpiling, limit number of consumers in the supermarket, minimizing contact between consumers and workers by enabling self check-out, and providing hygiene products such as hand sanitizers and wipes in order to ensure health and safety, offer online shopping and home delivery in order maintain profits.

After the pandemic is over, some consumer behaviors such as online grocery shopping and emphasis on health and safety over entertainment are likely to stay in the long term.

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