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ONLINE ORDERING VS OFFLINE ORDERING AFTER COVID-19 PANDEMIC:
CONSUMER CHARACTERISTICS – SECURITY & THE SHOPPING EXPERIENCE

by

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A THESIS

Presented to St. Mary's University
In Fulfillment of Requirements
For the Honors Scholars Program

Major: Business Marketing

Under the Supervision of Professor Zecong Ma

May 2022

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Acknowledgements

This thesis would not have been possible without the aid of some important people. First, I would like to thank my family for their support. In particular, I thank my mother for helping me discuss ideas for this paper. I am also grateful to my advisor, Professor Zecong Ma, for helping me through the writing process and providing me with advice and guidance. Lastly, I would like to thank everyone who participated in this study. None of this would be possible without you.

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Abstract

It's no secret that the COVID-19 pandemic has significantly altered consumer shopping habits. However, these changes are novel and not yet understood. Since the onset of the pandemic, we have experienced restrictions on businesses, quarantines, and public unease. Online shopping became more of a focus for many businesses. It could appeal to people who were apprehensive about the virus along with those who enjoy its convenience. This paper examines consumer perceptions of online shopping before vs. after the pandemic, as well as the characteristics of online shoppers with an emphasis on concerns about safety and losing the in-person shopping experience. Qualtrics, a professional survey website, was used to create and conduct the questionnaire. A sample of 211 respondents answered the survey. The survey contained 25 questions and used a Likert scale structure. The data was assessed using regression analysis with a p-value of 0.05 or less denoting a significant correlation. It was found that people were more likely to shop online when perceived security of offline shopping was low and less likely to shop online when the perceived security was high for beauty, grocery, and restaurant products. The value of the offline shopping experience was not significant under any conditions. Individuals who were more concerned about the safety of online purchases were less likely to buy online. Those who were likely to shop online before COVID-19 were even more likely to shop online after COVID-19.

Introduction

The COVID-19 pandemic has influenced consumer marketing in ways not yet fully understood. This event, although recent, has significantly affected business, perhaps forever. Quarantines, mask mandates, restrictions on businesses, and fear of the virus continue along with the novel delta variant. Precautions have forced businesses to adapt quickly to retain customers. Indeed, many have struggled and have closed down in the past year and a half. In addition, the public's unease about safety in public has put pressure on businesses to alleviate their concerns.

A solution several businesses have looked to is online ordering – through curbside and delivery. Online orders can appeal to customers who would prefer not to go out and stay comfortable in their own homes, and those who would prefer to avoid the hassle of shopping at the store. Online ordering has been a necessary addition to numerous businesses in this time as worries have been heightened. Prior to COVID-19, online ordering had been blossoming with the rise of the giant Amazon, a company focused on online orders and deliveries. Surely, many customers enjoy the convenience and ease that online ordering brings.

This paper seeks to study the marketing of online orders after the COVID-19 pandemic. It will study how perceptions among consumers has changed before versus after the pandemic. Furthermore, it will examine the consumer characteristics of those who order online, delving into concerns about safety and losing the shopping experience.

Literature Review and Hypothesis Development

Past research has been done on the consumer characteristics and product characteristics that affect online orders. In a study conducted by Elisavet et. al in 2011, several factors were assessed for their effect on user acceptance of online shopping. They found that product type was the main factor responsible for variations in consumer attitudes. They also note that product involvement was the sole significant factor across all product types. In 2003, Levin and Heath asked consumers whether offline and online shopping was better for a number of features. The participants ranked online shopping higher for speediness, large selections, and prices. Offline ranked better on physical qualities such as shopping experience, being able to observe the product, and customer service. The ability to handle the product is especially important in “high touch” products like clothing and sporting goods. Price, no hassle exchange, vast selection, and speedy delivery were important for all products (Levin and Weller, 2005). In terms of demographics, computer literacy demonstrated the greatest influence. For instance, those who ranked high on computer literacy viewed being able to handle the product as less important.

This study will expand the research on online shopping marketing research by focusing on COVID-19's influence on the area. There is a lack of research in this area given its recency and complexity. Specifically, I will focus on consumer's perceived security and shopping experience in online shopping compared with offline shopping.

Perceived security

Perceived security involves the level of safety that consumers associate with either online or offline shopping. For online shopping especially, it focuses on consumers' concerns about their information being kept confidential (Elisavet et al., 2011). Other factors related to perceived

security for online shopping are concerns about transaction safety and delivery. In-person, it can be associated with the safety of the store, such as the cleanliness and possibility of getting sick (in this case, with COVID-19) or injured. There are consumers who are afraid to shop in-person due to fears of contracting COVID-19 (Forbes, 2020). When consumers have a high perception of online security, they view online shopping more positively (Elisavet et al., 2011). I suggest that consumers concerned about the pandemic will rate the security of online shopping higher and be more likely to shop online.

Shopping experience

The shopping experience consists of the process to buy a product and the environment the experience takes place in. It also includes the customer service provided by the business. Consumers who are shopping online are concerned about losing the shopping experience, such as not being able to talk to salespeople or being able to try on the product (Levin and Heath, 2003). As noted by Levin and Heath, offline shopping ranked higher in terms of shopping experience due to the enjoyment it can provide with in-person, tangible attributes such as an aesthetic store or friendly service. I propose that this will hold true when consumers feel comfortable shopping offline. However, I hypothesize that consumers who are not comfortable with shopping in-person due to the COVID-19 pandemic will prefer the online shopping experience. Offline shoppers may have a decreased shopping experience due to COVID-19 measures such as mask requirement, social distancing, limits on the number of people in the store, and fear. They may also deal with inventory shortages and more time-consuming shopping.

The table below depicts the two main consumer characteristics after COVID-19 that this study will be addressing: perceived security and shopping experience. Consumer concerns for the two categories vary depending on whether the shopping is online or offline.

Table 1. Consumer's Perceived Security and Shopping Experience After Covid-19.

	Online Shopping	Offline Shopping
Perceived Security	-Concern about online transaction safety -Concern about delivery	-Concern about the covid Pandemic
Shopping Experience	-lose the in-person experience -lose the interaction with salespeople -couldn't try on the product	-more time consuming to find the things you want -inventory shortage -masks requirement -social distancing -limit on number of people in the store

H1: After COVID-19, there will be an increase in the likelihood to shop online when the perceived security of shopping offline is low.

H2: After COVID-19, there will be a decrease in the likelihood to shop online when the perceived security of shopping offline is high.

H3: After COVID-19, there will be an increase in the likelihood to shop online when the perceived shopping experience of offline is low.

H4: After COVID-19, there will be a decrease in the likelihood to shop online when the perceived shopping experience of offline is high.

Methods

The data was collected through a survey questionnaire that was distributed electronically on the internet. The survey was assembled on Qualtrics, a professional survey building website. Respondents were sourced from Amazon's MTurk. MTurk is a crowdsourcing marketplace website that allows you to hire people to complete certain business tasks. In total, 211 respondents completed the survey, and they were all from the United States. Responses were collected from November 17, 2021 to December 1, 2021 for a total of 15 days. This large survey size was needed to collect results that are representative of the population. The questions utilized a seven-point Likert scale structure. The survey consists of twenty-five multiple choice questions with the following blocks: introduction (1 question), general (5 questions), before/after pandemic (4 questions), products (1 question), consumer traits (6 questions), demographics (7 questions), and final thoughts (1 question).

In the introduction block, the participants were told the topic of the study, to examine consumer perceptions of online ordering after COVID-19, and were reminded that their information would be kept strictly confidential. Next, they were asked general questions about their experience with online ordering and their concerns with COVID-19. The before/after pandemic block addressed how likely they were to shop online and their enjoyment of online shopping before and after COVID-19. They were also asked about which products they were likely to purchase online. The consumer traits block addressed their priorities when shopping as well as their concerns about losing the in-person shopping experience, product quality, and safety. Additionally, they could fill out demographic information about their gender, race, occupation, and other factors. Lastly, they were given the option to write out any concluding thoughts about the topic or the survey.

Results

Demographics

The respondents of this study were internet users from the United States. 63.41% were male and 36.59% were female. The age range of 25 – 44 covered 77.18% of the respondents. The majority of respondents were White (87.32%). 88.35% were employed full time. Respondents were primarily university graduates with 66.50% having a bachelor's degree and 20.39% having a master's degree. 80% of participants were married. The most frequent family income levels were \$50,000 to \$59,999 at 24.27% and \$40,000 to \$49,999 at 15.53%.

Table 2: Demographics of Respondents

	Data	Frequency	Percentage
Gender	Male	130	63.41%
	Female	75	36.59%
Age	<18	0	0%
	18-24	10	4.85%
	25-34	96	46.60%
	35-44	63	30.58%
	45-54	21	10.19%
	55-64	14	6.80%
	65-74	2	0.97%
	75+	0	0%
Race	White	179	87.32%
	Black	19	9.27%
	American Indian	0	0%
	Asian	7	3.41%
	Pacific Islander	0	0%
	Other	1	0.48%
Employment	Employed full time	182	88.35%
	Employed part time	16	7.77%
	Unemployed, looking	0	0%
	Unemployed, not looking	1	0.49%
	Retired	4	1.94%
	Student	1	0.49%
	Disabled	2	0.97%
Education Level	Less than high school	0	0.00%
	High school	16	7.77%

	Trade/vocation school	4	1.94%
	Post-secondary certificates/diploma	6	2.91%
	Bachelor's degree	137	66.50%
	Master's degree	42	20.39%
	Professional/doctorate degree	1	0.49%
Marital Status	Married	164	80.00%
	Widowed	1	0.49%
	Divorced	7	3.41%
	Separated	1	0.49%
	Never married	32	15.61%
Annual Family Income	Less than 10,000	5	2.43%
	\$10,000 - \$19,999	15	7.28%
	\$20,000 - \$29,999	14	6.80%
	\$30,000 - \$39,999	19	9.22%
	\$40,000 - \$49,999	32	15.53%
	\$50,000 - \$59,999	50	24.27%
	\$60,000 - \$69,999	11	5.34%
	\$70,000 - \$79,999	20	9.71%
	\$80,000 - \$89,999	14	6.80%
	\$90,000 - \$99,999	12	5.83%
	\$100,000 - \$150,000	11	5.34%
	>150,000	3	1.46%



Most respondents were frequent online shoppers, with shopping once a week and once every 2-3 weeks being the largest categories.

Regression Analysis

To answer the hypothesis questions, regression analyses were conducted using consumer characteristics at the independent variables and likelihood of ordering online after COVID-19 as the dependent variable. A p-value of 0.05 or lower ($p \leq 0.05$) denotes a significant correlation.

Table 3: Summary of Regression Analysis

	Concern about losing in-person shopping experience	Concern about quality of product bought online	Concern about safety of online purchases	Comfort with masks & social distancing	Security shopping in a physical store	Concern about COVID-19 pandemic
P-value	0.884	0.001	0.009	0.024	0.408	0.587
Coefficient	-0.008	0.251	-0.191	0.165	0.058	-0.039

These results yield significant p-values for concern with quality of products from online, concern about the safety of online purchases, and comfort with masks/social distancing. Respondents who were more concerned about the quality of products bought online were more likely to purchase products online. Those who were more concerned about the safety of online purchases were less likely to buy online. Participants who were more comfortable with wearing masks and doing social distancing were also more likely to buy products online.

When running the dependent variable as the enjoyment of the online experience, the concern with quality of a product ordered online remained significant. Individuals who were more concerned with product quality online rated their experiences shopping online more negatively ($p=0.003$). Additionally, consumers who were likely to shop online before COVID-19 were even more likely to shop online after COVID-19 with a p-value equal to 0.000.

Table 4: Regression for Different Product Categories	Coefficient	Sig.
Beauty		
Frequency Order Online	0.23504229	0.0207884
Covid Concern	-0.0162202	0.86088354
Online Order Pre-Covid	0.05009588	0.57012417
Online Experience Pre-Covid	0.27582398	0.00991656
Losing the in-person shopping experience	-0.0038072	0.96138499
quality of a product online	0.11346297	0.25315697
safety of online transactions	0.07184498	0.44098708
comfortable with masks and social distancing	0.3448175	0.00025299
How secure do you feel when shopping in a physical store after the pandemic?	-0.2679637	0.00328663
Gender	-0.0503169	0.82756145
family income level?	-0.0416442	0.35973856
education level	0.04802699	0.69389184
Age	-0.1519992	0.17418232
Books		
Frequency Order Online	0.16614016	0.11936983
Covid Concern	-0.0570201	0.55876303
Online Order Pre-Covid	-0.0883166	0.34221976
Online Experience Pre-Covid	0.46328822	4.9192E-05
Losing the in-person shopping experience	-0.062536	0.4505545
quality of a product online	0.10174157	0.33039752
safety of online transactions	-0.1579519	0.10866868
comfortable with masks and social distancing	0.11628164	0.23398319
How secure do you feel when shopping in a physical store after the pandemic?	0.10726777	0.25928738
Gender	-0.5178611	0.03432293
family income level?	-0.0470793	0.32566629
education level	0.31622905	0.01461299
Age	-0.1214538	0.30208959
Clothes		
Frequency Order Online	0.082399	0.389822
Covid Concern	-0.089823	0.3066854
Online Order Pre-Covid	0.062672	0.4538275
Online Experience Pre-Covid	0.185052	0.0668636
Losing the in-person shopping experience	0.066873	0.3702634
quality of a product online	-0.090733	0.3349248
safety of online transactions	0.185125	0.0371802
comfortable with masks and social distancing	0.203839	0.0211215

How secure do you feel when shopping in a physical store after the pandemic?	-0.023687	0.7816655
Gender	0.007287	0.973457
family income level?	-0.076165	0.0781631
education level	0.175823	0.129667
Age	-0.111123	0.2942677
Electronics		
Frequency Order Online	0.01545809	0.87991985
Covid Concern	0.07384127	0.43150767
Online Order Pre-Covid	-0.0592925	0.50726946
Online Experience Pre-Covid	0.22033957	0.04142036
Losing the in-person shopping experience	-0.0569283	0.47531134
quality of a product online	0.14024485	0.16375874
safety of online transactions	-0.0569879	0.54633909
comfortable with masks and social distancing	0.00412341	0.96495039
How secure do you feel when shopping in a physical store after the pandemic?	-0.0255645	0.7795981
Gender	-0.3545648	0.13099685
family income level?	-0.0049678	0.91405888
education level	0.20740668	0.09465148
Age	-0.0738789	0.51380329
Groceries		
Frequency Order Online	0.11006962	0.28332988
Covid Concern	0.16554973	0.07911462
Online Order Pre-Covid	0.07662673	0.39220392
Online Experience Pre-Covid	0.14379005	0.1823973
Losing the in-person shopping experience	0.10992657	0.16932888
quality of a product online	0.01089805	0.91371249
safety of online transactions	0.07798804	0.40979441
comfortable with masks and social distancing	0.02936925	0.7546011
How secure do you feel when shopping in a physical store after the pandemic?	-0.1865122	0.04250416
Gender	-0.2506266	0.28559682
family income level?	0.04231702	0.35901974
education level	-0.167992	0.17578062
Age	-0.0987959	0.38334899
Household Products		
Frequency Order Online	0.15833569	0.13768982
Covid Concern	0.03572753	0.71407691
Online Order Pre-Covid	0.07766047	0.40356395
Online Experience Pre-Covid	0.1515881	0.17578143

Losing the in-person shopping experience	-0.03551	0.66823676
quality of a product online	0.06239875	0.55030641
safety of online transactions	0.04848078	0.62144429
comfortable with masks and social distancing	0.01312586	0.89295304
How secure do you feel when shopping in a physical store after the pandemic?	-0.0072651	0.93900757
Gender	-0.0403422	0.86831848
family income level?	0.02138139	0.65505167
education level	-0.0066825	0.95853241
Age	-0.1955542	0.09738819
Restaurant		
Frequency Order Online	0.02320588	0.82466422
Covid Concern	0.06331085	0.50987264
Online Order Pre-Covid	-0.1389971	0.12978997
Online Experience Pre-Covid	0.08892475	0.41924659
Losing the in-person shopping experience	0.05539368	0.49736645
quality of a product online	-0.0679618	0.50890447
safety of online transactions	-0.0090563	0.92534827
comfortable with masks and social distancing	0.33955878	0.00050247
How secure do you feel when shopping in a physical store after the pandemic?	-0.1671459	0.07503467
Gender	-0.5767925	0.01688125
family income level?	0.04671707	0.32206661
education level	-0.0709588	0.57518464
Age	-0.0099406	0.93156709

Beauty: Respondents who are more comfortable with masks and social distancing are more likely to shop for beauty products online, and those who are more secure shopping in-person are less likely to shop for beauty products online.

Books: Males are more likely to shop for books online. The higher the education level, the more likely respondents were to shop for books online.

Clothes: Respondents who were more concerned about the safety of online transactions and comfortable with social distancing were also more likely to shop for clothes online. Those with higher incomes were less likely to shop for clothing online.

Electronics: Respondents with higher education levels were more likely to purchase electronics online.

Groceries: People who were more concerned about COVID-19 were more likely to buy groceries online. Those who were more secure about shopping in-person were less likely.

Household products: Younger participants were more likely to buy household appliances online.

Restaurant: Those who were comfortable with social distancing were more likely to purchase restaurant pickup/delivery. Those who are more secure going out were less likely to purchase restaurant food online. Men were more likely to purchase restaurant food online than women.

Hypotheses:

H1 and H2: “After COVID-19, there will be an increase in the likelihood to shop online when the perceived security of shopping offline is low. After COVID-19, there will be a decrease in the likelihood to shop online when the perceived security of shopping offline is high.” This could be observed with beauty, grocery, and restaurant products.

H3 and H4: “After COVID-19, there will be an increase in the likelihood to shop online when the perceived shopping experience of offline is low. After COVID-19, there will be a decrease in the likelihood to shop online when the perceived shopping experience of offline is high.” There was not sufficient evidence to prove this as the p-value for shopping experience was not significant under any of the conditions.

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