CHANGES IN CONSUMER BEHAVIOR OF UNIVERSITIES DURING COVID-19 SELF-RESTRAINT PERIOD

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Abstract

The COVID-19 pandemic has forced consumers to refrain from going out, causing changes in their purchasing behavior. Considering the need to examine the impact of COVID-19 on society from multiple perspectives, we examined shifts in consumption patterns among university students before and after the pandemic's onset. The quantitative survey showed that the lifestyles of university students did not appear to have changed much, but the qualitative survey showed a clear division between students whose lifestyles changed before and after the COVID-19 outbreak, and those whose lifestyles did not change at all. These results suggest that the consumption behavior of university students may have been polarized into those who were affected by COVID-19 and those who were not.

Keywords: consumer behavior, university students, online shopping, COVID-19.

JEL Classification: D10

1. Introduction

This study aims to examine how university students' consumer behavior has shifted due to the COVID-19 pandemic. According to Ishihara (2020) [1] of the Statistics Bureau of the Ministry of Internal Affairs and Communications, the percentage of households (two or more persons) using online shopping increased in Japan after April 2020, when the state of emergency was declared following the spread of COVID-19, and reached 50.5% in May, exceeding 50% for the first time since 2002, when the survey began. In June, after the declaration of emergency was lifted, the percentage remained high at 50.8%. Looking at the percentage of households using online shopping by age group, households with heads

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of household in their 30s, 40s, 50s, and 65 and older all increased by more than 10% before and after COVID-19 pandemic.

Not only in Japan, but also in many other countries globally, the impact of the Covid-19 outbreak has forced people to refrain from going out, and the way they shop for groceries and daily necessities has changed drastically. This paper focuses on university students in their 20s in Japan, and analyzes and discusses how their consumer behavior changed before and after the COVID-19 outbreak. Chapter 2 reviews previous studies; Chapter 3 provides an overview of the study; Chapter 4 presents the results of the quantitative analysis; and Chapter 5 presents the results of the qualitative analysis. Chapter 6 provides a discussion, and Chapter 7 presents the conclusions.

2. Review of Previous Studies

Consumers go through several stages of purchasing behavior before deciding on a product or service to purchase. Furthermore, evaluation, disposal, and other actions also occur after purchasing. Figure 1 shows the six stages of the consumer purchasing process (Tanaka, 2008, p.53-54) [2]. This study focuses on (4) purchasing behavior, especially online purchasing behavior.

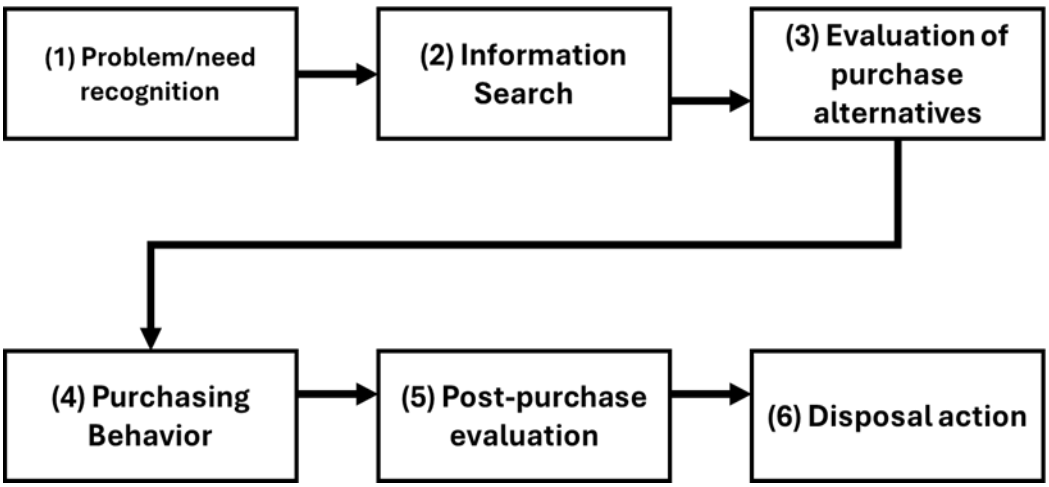

Figure 1: Consumer Buying Process

Nakano and Kondo (2019) [3] noted that consumers who are more likely to make online purchases are associated with consumer characteristics such as buying more daily consumer goods at once, having more time to spare, shopping more frequently, and having fewer children in the elderly female population. Consumers who are more likely to make online

purchases over time are associated with certain consumer characteristics, such as having less time to spare, shopping on weekends, shopping less frequently, and being more price sensitive. Furthermore, they noted that the accumulation of experience using e-commerce sites on computers has a stronger influence on online purchases of daily consumer goods than on mobile devices and that mobile usage is higher as consumers gain experience over time.

Nakamura (2016) [4] noted that the widespread use of smartphones and tablets has led to an increase in consumer purchase behavior, such as making purchases online rather than in physical stores, after seeing and trying out the actual products in stores.

Chocarro, Cortiñas, and Villanueva (2013) [5] noted that the main determinants of consumers' channel choice are related to time and distance, and that distance to stores and time pressure are factors that influence the probability of online purchase.

Thus, various studies have been conducted on changes in online consumer behavior. It is thought that self-restraint from going out of the house further increased online purchases after the COVID-19 outbreak, and in fact, the percentage of households using online shopping increased in Japan, both for households in their 30s, 40s, 50s, and 65 years of age and older (Ishihara, 2020). Because we believe that the impact of COVID-19 on society needs to be studied from various perspectives, this study focuses on the consumer behavior of university students in their 20s immediately after the COVID-19 pandemic.

3. Research Outline

This study was conducted from November to December 2020 as a quantitative survey using a questionnaire survey of 45 university seniors (in their 20s) in Niigata Prefecture, Japan. The total number of valid responses to the questionnaire was 36, of which 27 were valid (24 living alone and 3 living at home). In addition, a qualitative survey was conducted by interviewing eight fourth-year university students (four males and four females) living alone. The reason for focusing on qualitative research on students living alone was that students who live alone have more opportunities to make purchases for food and daily necessities than students who live at home, and thus are more likely to be affected by COVID-19. The time period for this study was February 2019 to January 2020, before the COVID-19 pandemic, and February 2020 to December 2020:after COVID-19 pandemic.

4. Quantitative Research

This chapter describes the content of the questionnaire and the results of the data obtained from the questionnaire survey with the aim of identifying changes in consumer behavior before and after the COVID-19 pandemic.

4.1 Questionnaire

The questionnaire was developed based on a study by Nakano and Kondo (2019). The questions consisted of nine items: number of purchases per month, number of purchases in physical stores per month, number of purchases online per month, number of purchases on holidays per month, number of purchases per month, part-time job salary per month, amount of money sent home per month, time spent on the internet per day, and time spent on e-commerce sites per day. The part-time job salary and amount of money sent home were divided into five levels: 0 yen to less than 25,000 yen, 25,000 yen to less than 50,000 yen, 50,000 yen to less than 75,000 yen, 75,000 yen to less than 100,000 yen, and more than 100,000 yen. For each item, we asked about the average monthly values.

4.2 Questionnaire survey results

	Question	Before pandemic	After pandemic	(After pandemic)-(Before pandemic)
1	Number of purchases per month	15.56	14.56	-1
2	Number of online purchases in a month	2.33	3.07	0.74
3	Number of purchases at physical stores in a month	13	11.07	-1.93
4	Number of holiday purchases in a month	4.44	4.3	-0.14
5	Number of purchases per shopping trip	5.3	5.89	0.59
6	Part-time job salary per month	2.59	2.33	-0.26
7	Amount of money sent home per month	2.04	1.93	-0.11
8	Time spent online per day	6.04	6.56	0.52
9	Time spent using e-commerce per day	1.13	1.222	0.092

Table 1: Comparison of means from the results of the questionnaire.

	Before pandemic	After pandemic	

	Mean *M*	Standard deviation *SD*	Mean *M*	Standard deviation *SD*	t-value
Total number of purchases	15.56	12.509	14.56	12.454	-1.04
Number of purchases	2.33	2.572	3.07	4.169	1.48
Number of online purchases	13	11.28	11.07	9.421	-2.20*
Number of purchases in physical stores	4.44	3.412	4.3	2.972	-0.26
Number of purchases on holidays	5.3	2.839	5.89	3.389	1.23
Part-time job salary	2.59	1.185	2.33	1.271	-0.86
Sending money	2.04	1.192	1.93	1.207	-0.37
Time spent online	6.04	3.458	6.56	3.609	1.01
Time spent on e-commerce	1.13	1.0246	1.222	1.2659	0.32

* $p<.05$ ** $p<.01$

Table 2: Changes in consumer behavior among university students (two-tailed t-test)

Table 1 presents the average results of the questions and responses regarding lifestyle changes. Comparing the difference in means before and after the Pandemic, online purchases per month increased 0.74 times, while the number of actual store purchases per month decreased 1.93 times. However, when a two-tailed t-test was conducted in Table 2, the number of actual store purchases was significant, whereas the number of online purchases was not. For the other items, the difference between the means of the two periods was less than one, and the results of the two-tailed t-test were not significant.

5. Qualitative Research

This chapter describes the questions and results of the interview survey conducted with eight university students in order to conduct a more detailed study using quantitative analysis.

5.1 Question Content

In the qualitative study, eight students were asked the 11 questions shown in Table 3.

(1) Have there been any changes in online shopping use (number of purchases, products purchased) before and after COVID-19 outbreak?
(2) Before and after COVID-19 outbreak, were there any changes in the use of physical stores (number of purchases, items purchased)?
(3) When do you use online shopping?
(4) How much free time do you have on average per day?
(5) When do you do most of your shopping, on weekdays or holidays?
(6) What devices do you use when you shop online?
(7) What sites do you use when you shop online?
(8) What criteria do you use to distinguish between physical stores and online shopping?
(9) What type of part-time jobs do you have?
(10) Have there been any changes in the salaries of part-time workers before and after COVID-19 outbreak?
(11) Is there any change in the distance you travel when you go shopping?

Table 3: List of Interview Survey Questions

The basic questions were the same as those in the quantitative study, but the questions in the quantitative study were asked in more detail. In addition, because Nakano and Kondo (2019) indicated that consumers who purchase online are characterized as having less time to spare, shop on weekends, shop less frequently, and are more price-sensitive, we asked questions regarding (4) the amount of free time they have in a day and (5) the timing of their shopping trips. In addition, as Chocarro, Cortiñas, and Villanueva (2013) showed that the distance from home to a physical store affects online purchasing, we also asked whether the distance to go shopping changed before and after the COVID-19 outbreak (11). The results are presented in Table 1.

5.2 Interview Survey Results

A summary of the interviews with students A through H is presented in Table 4.

	A male	B female	C male	D male	E female	F female	G female	H female
question								
(1) Online purchasing changes before and after COVID-19 pandemic	No change	Frequency increased after the outbreak.	No change	No change	Frequency increased after the outbreak.	No change	Frequency decreased after the pandemic.	No change in frequency after the pandemic, but the frequency increased in June and July.
(2) Changes in purchases at retail stores before and after the COVID-19 pandemic	No change Almost no shopping because they finish their meals at cafeterias	Frequency decreased. Frequency has decreased because they no longer purchase groceries and books.	Frequency has not changed, but use of convenience stores increased during the period of self-restraint.	No change	No change	Frequency has not changed, but has recently increased.	Frequency has decreased since the outbreak.	Frequency has decreased since the outbreak.
(3) Use of	When I want	When I want to	When prices	When prices	When you are	When you are	When you	When you

online shopping	something that is not available in Nagaoka	shop easily and buy something that is not available in Nagaoka	are low and I want to buy something that is not available in Nagaoka	are low and the store does not have the item in stock,	interested in something you saw advertised	interested in something you saw advertised	want to buy something that is only available on the Internet, or when it is cheaper on the Internet	don't need to go out of town to buy something when it is cheaper on the Internet
(4) Free time	2,3 hours before 5,6 hours after	3 hours before 7 hours after	7 hours before 5 hours after	2,3 hours before 3,4 hours after	5 hours before 9 hours after	4,5 hours both before and after	4 hours before 10 hours after	5,6 hours before 10 hours after
(5) Timing of shopping	holiday	Weekdays	Weekdays	Weekdays	Weekdays	Weekdays	holiday	Weekdays
(6) Devices used when shopping online	PC	PC, Smartphone	PC, Smartphone	Smartphone	Smartphone	Smartphone	Smartphone	Smartphone
(7) Sites used for online	Amazon, multiple sites for	Amazon, My Protein	Amazon, My Protein, iHerb	Amazon, multiple sites for	Rakuten, e-commerce of	Instagram ads to EC sites	Amazon	Amazon, Rakuten

shopping	price comparison			price comparison	specific stores			
(8) Use of physical stores and online	Store for items with expiration dates, online for items that are the same no matter where you buy them	If the item you want is in the store, go to the store; if not, go online.	Store for things you need immediately, online for things you don't.	Store for things you need immediately or want to check, internet for things not in stock or not needed immediately	Store for what you need immediately, internet for everything else	Store for redemption, store for hobby items (if not in stock, internet)	Store for food and beverage items, net for books and items not needed immediately	If online is cheaper, use online, otherwise store
(9) Part-time job type	Movie theater	Cram school, gym	Restaurants	Restaurants	Restaurants	Restaurants, cram schools	I don't do it.	Cram school
(10) Salary changes before and after the pandemic	No change (due to absence allowance)	No change	Decreased during the period of self-restraint, otherwise no change	Decreased during the period of self-restraint, otherwise no change	Income decreased	Income decreased (with some absence allowance)		Salary decreased after the pandemic, but not significantly due to absence

								allowance
(11) Change in distance to go shopping	No change	No change	No change	No change	No change	No change	No change	Shopped as close as possible and spent less time outside.

Table 4: List of Interview Survey Results

Four out of eight students changed their online shopping use as a result of the COVID-19 outbreak, with students B, E, G, and H changing, while students A, C, D, and F remained unchanged. Students B, E, and H increased their online shopping use after the pandemic. The reason for the increase in June and July for Student H was that they used online shopping more often as they refrained from going outside because of self-restraint.

Five of the eight respondents showed a change in their use of physical stores, with students B, C, F, G, and H changing, while the others, students A, D, and E, remained unchanged. Students B, G, and H had consciously reduced their use of physical stores due to the COVID-19 pandemic.

The situations in which online shopping is used can be divided into three categories: (1) when purchasing items that are only available online, (2) when the online price is lower than the price of the product in the actual store, and (3) when the customer sees an advertisement and becomes interested in the product. Students A, B, C, and G responded to (1), students C, D, G, and H to (2), and students E and F to (3).

Regarding free time per day, before COVID-19 pandemic, students had relatively little free time due to classes, research, and job hunting. After the pandemic, free time increased except for Student C because classes were held online and he no longer had to commute to school. Student C said that after COVID-19 pandemic, he had less free time because his personal activities increased.

The timing of shopping did not change before or after COVID-19 pandemic, with students B, C, D, E, F, and H indicating that they do it on weekdays. Students A and G indicated that they shopped on holidays.

Regarding the devices used for online shopping, Student A used only a PC, Students D, E, F, G, and H used only a smartphone, and Students B and C used both a PC and a smartphone.

Amazon was the most frequently used e-commerce site, as selected by students A, B, C, D, G, and H. However, depending on the product to be purchased, Student A browses other sites for comparison, and Students E and F purchase brands from e-commerce sites they are interested in through advertisements displayed on social networking sites.

Students E and F tend to purchase items they need immediately at brick-and-mortar stores and purchase items online if they do not need them immediately or if the form and performance are the same regardless of where they buy them. In addition, students B, D, and F indicated that they buy online when the actual store does not have an item in stock, while students F and G indicated that they buy food, beverages, and other items at the actual store.

Regarding monthly income from part-time jobs, differences were found depending on part-time jobs. However, the overall trend was a decrease in income for five out of the eight respondents, indicating that they were affected by COVID-19.

Regarding the distance of stores used, student H, aware of COVID-19 shopped at stores as close as possible, while the other students did not change and made purchases at the same stores.

6. Discussion

Looking at the averages of the quantitative surveys in this study, the total number of purchases per month by university students decreased by 1, the number of online purchases increased by 0.74, and the number of physical store purchases decreased by 1.93 before and after COVID-19 pandemic. Of these, the results of the two-tailed t-test showed that the number of actual store purchases was significant. As for the other items, the mean difference between the two periods was less than 1 for the number of purchases per month on holidays, the number of purchases per shopping trip, part-time job salary per month, the amount of money sent home per month, time spent on the Internet per day, and time spent on e-commerce sites per day, and the results of two-tailed t-tests were not significant. Therefore, looking at the results of the quantitative survey, it appears that there were not many changes in the lives of the university students.

However, looking at the results of the qualitative study, there is a fairly clear division between students whose lives changed before and after COVID-19 pandemic and those whose lives did not. For example, four of the eight students said that online shopping had changed and four said it had not. The former four students also said it had changed, with the exception of one student, when asked about the number of actual store purchases they had made since then.

Nakano and Kondo (2019) pointed out that the characteristics of consumers who make online purchases are related to consumer characteristics, such as buying many daily consumer goods at once, having more time to spare, shopping more frequently, and having

fewer children in the elderly female population. This study could not show the characteristics of university students who made online purchases after the COVID-19 outbreak. We could not show the characteristics of university students' consumer activities in the way Nakamura (2016) and Chocarro et al. (2013) did.

The implication of this study is that, while quantitative research would Equalize the numbers in the form of averages for the consumer behavior of Japanese university students, qualitative research would likely show that Japanese university students were quite clearly divided into two groups: those affected by COVID-19 pandemic and those not affected by it.

Naturally, even among generations other than university students, such as those in their 50s and 60s, there would have been a clear division between those affected and those not affected by the COVID-19 pandemic. However, given that the vaccination rate (third dose) for COVID-19 increased with age as of April 1, 2024, with 55.9% for those in their 20s, 79% for those in their 50s, and 85.2 % for those in their 60s to 64s (Ministry of Health, Labor and Welfare, 2024) [6], it is not surprising that consumer behavior also showed that the older people became, the more uniformly the new type In contrast, those in their 20s were more likely to be affected by COVID-19 than those in their 30s. In contrast, it is possible that those in their 20s were polarized into two groups: those affected by COVID-19 and those not affected by it.

7. Conclusion

The research question for this study was how the consumer behavior of university students changed before and after COVID-19 outbreak.

Based on the results of the quantitative survey in this study, it appears that the consumer behavior of university students did not change much after the COVID-19 outbreak. However, the results of the qualitative study showed a fairly clear division between students whose consumer behavior changed before and after the Pandemic and those whose behavior did not change. This study suggests that after COVID-19 pandemic, the consumer behavior of university students may have been polarized into two groups, those affected by COVID-19 and those not affected by COVID-19.

However, this study has limitations in generalizing the results of this study, since the number of valid responses to the quantitative survey was 27 and the number of interviewees for the qualitative survey was 8. In addition, this study does not address such issues as what polarized the consumer behavior of university students. Furthermore, with regard to COVID-19, there is the question of whether consumer behavior will return to normal when the self-restraint is eased, or whether the behavior at the time of the self-restraint will continue. These issues will be the subject of future research.

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