**Introduction**

As many pieces of research have shown, in this fast-paced society, people value the speed of delivery service. According to Parry(2016), in a study of online shopper behavior, 263 out of 558 individuals are willing to pay more just because they want to get their packages faster. Sometimes, dissatisfaction with the delivery service can lead to order cancellation or even more severe long-term effects for a company, for example, an unrecoverable consumer relationship, for a company.

The COVID-19 pandemic challenged our life in many aspects, for example, people are more likely to receive emails from third-party carriers informing them about the potential delay for their packages. But some industries grew fastly during this period, such as fresh delivery services. For this project, we would like to dive into the food delivery service industry. We’d like to take the standpoint of the third-party food delivery service platforms, such as Uber Eats, Chowbus, DoorDash, etc., which connect the restaurants and consumers. We want to analyze when everything holds constant, how the food delivery time interval will affect a consumer’s willingness to place an order.

We wish our results could help us have a better understanding of the influence of wait time on whether a consumer would choose a service or not, which could be helpful in our career. Also, we wish our result would help food delivery service platforms to gain more profit by providing consumers with a better user experience.

**Method**

**Questionnaire Design**

For the questionnaire, first, we collected basic personal information, including age and gender, and we would like to know if the participant is a student or an employee for an organization and if he/she is working/studying from home. Second, we asked the participants' behavior of using food delivery service. For example, we would like to know the frequency of an individual orders food delivery, their preference of food category. We also decided to answer some questions about the previous service platform interaction recommend by K.Foreit and J.Foreit(2004) in their paper, the most frequently used food delivery service provider, and if the individual is a prime member of any of the food delivery services.

Next, we simulated two interfaces. For the treated group, the participant would see the ordering page with the delivery time interval of 10 minutes (e.g., Your food will be delivered between 7:00 pm -7:10 pm); while the control group will see the same restaurant as the treatment group. The only difference would be the delivery time interval is greater than 30 minutes (e.g., Your food will be delivered between 7:00 pm – 7:40 pm). We also provided the options across different food categories, and we chose the same image representation so we could eliminate the impact of food categories on participants' decision-making as much as possible. In each question, the participant should decide if he/she would like to place an order according to the picture and the information we provided.

Finally, we asked the individual to provide the reasons if he/she chose unwilling to place an order in the previous questions. We would like to collect the potential reasons that might lead to participants' decisions and examine if the results could support our hypothesis.

**Participants**

To decide which participants would be in the treatment or control group, we decided to use the built-in function in Qualtrics, a survey design platform. By setting automatic randomization, the questionnaire would randomly present one of the interfaces to the individual. The participants will be evenly presented with one of the interfaces. By appropriately designing the randomizer in the questionnaire, we were able to randomize everyone into the control or treatment group in an attempt to avoid selection bias in the study.

To recruit the participants, we distributed our questionnaires in two ways. Firstly, we distributed it by posting messages in the ‘QuestromMSBA21’ Slack channel. Secondly, we also distributed through our social networking. Finally, we had a total of 91 respondents from under 19 to 39. Additionally, 54 identify as female, and 36 identify as male.

**Conclusion**

After performing a series of regression analyses, we finally obtain some results. By simply running a regression between different cuisines, two of all five cuisines have a statistically significant result at 90% confidence level which are fast food and pizza. Then, by noticing there is a large portion of Chinese cuisine selection according to our survey, we explored the heterogeneous effect on whether the respondent selected Chinese as their preferred or not. The result is that users who favor ordering Chinese cuisine are slightly more in favor of short delivery time interval estimates. Lastly we have regression for the heterogeneous effect regarding ordering frequency. Users who had high previous order frequency tended to pay more attention to food delivery time range. On the other hand, Users who had low previous order frequency didn't really seem to take range of delivery time into account.

**Limitation**

Even though we tried to be as comprehensive as we could, this project still has some limitations.

To start with, the questionnaire did not cover all possible types of diets such to be specific, we did not consider whether the respondent is a vegetarian or not.

The combination of all order placement questions may lead to confusion which could fail to make respondents consider each question individually, and they may even didn’t notice the food type differences. Even worse, the person may just pick favorite food cuisines and ignore the delivery time we set on purpose.

Though this sampling method was efficient, some biases emerged when we recruited only people we know. First, the sample can't be representative of people of all ages. Second, we have a disproportionate number of participants who are students since we approached a lot of classmates. This might cause the external validity of our results and makes it difficult to apply our findings to a larger population.

**Further research**

During our data analysis process, we realize that qualtrics automatically collect geographical information, so if we can distribute our samples on a larger scale, we may be able to check whether there are block-wise characteristics.

Furthermore, we could include some questions about the average cost per order to check whether the longer individual waits, the more she/he is likely to spend.

References:

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