Abstract: The COVID-19 outbreak that began in Wuhan, China has led to the proclamation of quarantine restricting outdoor activities such as traveling and purchasing necessities from marketplaces. With this, the use of online shopping applications has been recognized as an alternative avenue for consumers which has impacted the economy and online adoption in the Philippines. Therefore, this research study aimed to examine the possible factors that affect Filipino consumers in their inclination to online shopping. The relationship of the eight constructs included in the extended Unified Theory of Acceptance Model 2 framework, known for its viability to assess the adoption of new technology with users’ behavior and perception, was analyzed. For this study, 142 valid responses from various users and non-users were collected through an online survey questionnaire that was disseminated by convenience sampling. This was followed by a focus group discussion with business professionals which validated the results and provided notable insights. Performance expectancy, personal innovativeness, and self-efficacy were found to be significant predictors of behavioral intention, and effort expectancy positively influenced performance expectancy, whereas effort expectancy, facilitating conditions, price value, and social influence were found to be statistically insignificant to behavioral intention. These results implied that consumers nowadays have the ability and willingness to explore various online shopping applications. Additionally, it also indicates that online shopping became a necessity during the pandemic. Despite the implications of these findings, e-commerce must also consider and emphasize other factors that affect consumers’ perceptions to reinforce its accessibility and reliability to the Filipinos.

Keywords: computer literacy, technology acceptance, online shopping, online adoption, e-commerce
from person to person, many people, especially minors, are encouraged to remain indoors unless otherwise necessary.

Online shopping served as the immediate alternative medium presented for shopping without the need of visiting public spaces. The Google search queries from the Philippines using the search term “online shopping” spiked for the duration of March 22, 2020 to March 28, 2020 (Google Trends, n.d.). This signifies an increasing trend of consumer interest during the first imposed enhanced community quarantine (ECQ) protocols in some regions. Furthermore, related literature has demonstrated a slew of determinants for an individual’s perception, participation, and behavior in online shopping. Namely, these are perceived benefits, trust, web quality, item reviews, product description, price, scarcity, mode of payment, and delivery duration (Al-Debei et al., 2015; Bucko et al., 2018).

It was to be envisioned that online shopping would gain relevance while many were under quarantine. However, it is a given that not everyone would participate in online shopping. This can be tied to technology acceptance which investigates how groups perceive technology and its eventual usage patterns. In an article by Boeije et al. (2014), it is confirmed that if a user’s characteristics and lifestyle have aligned with a certain technology, they are more likely to accept and use it in their lives. Another agent to the adoption of online shopping would be computer literacy which encompasses the duration and frequency of usage of various devices, including their knowledge and familiarity with technology (Marler & Varma, 2013). Because computer literacy can be described as an individual’s understanding, experience, and capability, its heavy correlation with technology acceptance is expected. Thus, the attributes that influence it also have an impact on technology acceptance including the user’s abilities and intentions.

Behavior towards online shopping applications varies for different sets of consumers. Related literature considered multiple research models in measuring variables’ significance, specifically the Technology Acceptance Model (TAM), Unified Theory of Acceptance Model (UTAUT), UTAUT2, and Theory of Planned Behavior (Appiah-Nimo & Ofori, 2019; Han et al., 2021; Hassan et al., 2015). The study intends to adopt the extended UTAUT2 research model from Arora et al. (2020). The constructs to be considered, with their respective definitions, are Performance Expectancy (PE) describes that technology can provide an advantage to one’s performance, Effort Expectancy (EE) is the ease of use using a system, Social Influence (SI) refers to the direct or indirect influence of acquaintances, Facilitating Conditions (FC) is the availability of resources, Price Value (PV) explains the trade-off of price and gained benefits, Self-efficacy (SE) refers to the confidence and capability to use, while Personal Innovativeness (PI) is the willingness to explore new innovations. In addition, profile demographics, such as age, gender, and residence, are also taken into consideration as a factor in their attitude and perception (Barron et al., 2013; Boot & Charness, 2016; Dincer, 2012).

With these considerations, the new situation brought about by the COVID-19 outbreak holds an opportunity to explore the role of this newfound necessity for online shopping. Hence, the study aims to conduct a study on recognizing the possible factors that influence consumer adoption of the use of online shopping applications during the COVID-19 pandemic.

1.2. Research Objectives

The general objective of this research is to examine the possible factors that drive Filipinos to engage with online shopping applications during the pandemic, including, but not limited to, Lazada and Shopee. Alongside, the specific objectives of this study will be as follows:

1.2.1. To identify the possible factors that may affect users’ inclination towards online shopping applications based on an adopted UTAUT2 model.
1.2.2. To perform data gathering and to analyze the prominent variables that affect the experience of online consumers by statistical analysis.
1.2.3. To validate the findings through a focus group discussion (FGD) with knowledgeable professionals in the information technology field.

1.3. Scope and Limitations

With the increase in technological engagement, online shopping applications can largely take part in the lifestyle of consumers. Thereby, the study focuses on such factors that can affect the experience of users on e-commerce platforms. The constructs of the adopted UTAUT2 model, revolving around the concepts of computer literacy and technology
were invited to a FGD through a Zoom conference. The FGD was conducted to discuss findings with professionals. Important points mentioned by the participants were used to explain the results in the discussion portion of the paper.

2.2 Hypotheses

In line with the aforementioned findings of the studies, the research adopted the constructs of the UTAUT2 research model, including self-efficacy and personal innovativeness, as its scope is observed to be applicable in measuring the usage of online shopping applications.

**Figure 1**

Conceputal Framework of Modified UTAUT2 Constructs

Figure 1 presents the conceptual framework from the constructs of the chosen UTAUT2 model which presents relationships between variables. With this, the study hypothesized that PE, PV, FC, EE, SI, PI, and SE have a positive correlation with BI and at the same time, EE positively influences PE.

3. RESULTS AND DISCUSSION

3.1 Results

A total of 155 respondents answered the online questionnaire. Unfortunately, 13 of these respondents were manually removed since six of them had invalid answers, one had incomplete answers, and the remaining six were already participants in the pilot testing. Due to this, only 142 responses were considered valid.

**Users’ and Non-users’ Region**

For the respondents’ demographics, 138 (97.2%) of the respondents have already used one or more online
shopping applications. The other 4 participants comprised 2.8% of the respondents that have never used these applications.

Out of the 142 respondents, the top three regions were National Capital Region (NCR), CALABARZON (Region IV-A), and Central Luzon (Region III) which had 97 respondents (68.3%), 20 (14.1%), and 11 (7.7%) respectively. The other remaining regions either had 1 or 2 respondents living in them. Table 1 shows the complete distribution of the participants (users and non-users) in their respective regions.

**Age Generation**

Five generations were utilized in the survey questionnaire namely Generation Z (1997-2005), Millennials (1981-1996), Generation X (1965-1980), Boomers II (1955-1964), Boomers I (1946-1954). Responses were predominantly from Generation Z with 89 participants (62.7%). This was followed by Millennials composed of 30 respondents (21.1%) and Generation X (14.8%). The remaining 2 responses were Boomers I which comprises 1.4% of the full sample. Unfortunately, there were no participants belonging to the Boomers II age generation. Full details about the age generation of participants are shown below in Table 1.

**Table 1**

<table>
<thead>
<tr>
<th>Age Generation</th>
<th>Users</th>
<th>Non-users</th>
<th>Full sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen Z</td>
<td>85</td>
<td>4</td>
<td>89</td>
</tr>
<tr>
<td>Millennials</td>
<td>30</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Gen X</td>
<td>21</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>Boomers I</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>n</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>

Note. n for Users = 138, n for Non-Users = 4, n for Full Sample = 142

**Construct Reliability and Validity**

To ensure that the constructs are reliable and valid in terms of the study’s context, various parameters were examined, specifically Cronbach’s alpha (α), rho_A, and composite reliability (CR). After assessing the values, it was found that all of the constructs used in the study were statistically significant as they were all above the acceptable value of 0.7. Another parameter used to support this conclusion was the average variance extracted (AVE) as it meets the minimum accepted value of 0.5.

**Table 2**

<table>
<thead>
<tr>
<th>Constructs</th>
<th>α</th>
<th>rho_A</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI</td>
<td>0.888</td>
<td>0.889</td>
<td>0.931</td>
<td>0.817</td>
</tr>
<tr>
<td>EE</td>
<td>0.914</td>
<td>0.921</td>
<td>0.947</td>
<td>0.855</td>
</tr>
<tr>
<td>FC</td>
<td>0.929</td>
<td>1.087</td>
<td>0.964</td>
<td>0.930</td>
</tr>
<tr>
<td>PE</td>
<td>0.865</td>
<td>0.865</td>
<td>0.918</td>
<td>0.789</td>
</tr>
<tr>
<td>PI</td>
<td>0.892</td>
<td>0.894</td>
<td>0.933</td>
<td>0.823</td>
</tr>
<tr>
<td>PV</td>
<td>0.884</td>
<td>0.885</td>
<td>0.928</td>
<td>0.812</td>
</tr>
<tr>
<td>SE</td>
<td>0.960</td>
<td>0.966</td>
<td>0.974</td>
<td>0.925</td>
</tr>
<tr>
<td>SI</td>
<td>0.909</td>
<td>1.077</td>
<td>0.940</td>
<td>0.840</td>
</tr>
</tbody>
</table>

Note: BI = Behavior Intention, EE = Effort Expectancy, FC = Facilitating Conditions, PE = Performance Expectancy, PI = Personal Innovativeness, PV = Price Value, SE = Self-Efficacy, SI = Social Influence

By using the p-value method and analyzing the beta weights (β), the validity of the hypotheses were determined. At a 5% level of significance, it was discovered that PE (β = 0.310, p = 0.002), PI (β = 0.191, p = 0.040), and SE (β = 0.333, p = 0.004) are statistically significant to behavior intention. Meanwhile, effort expectancy (β = 0.673, p = 0.000) is significant in explaining performance expectancy.

On the other hand, the other four constructs namely
3.2. Discussion

Different implications can be observed based on the results that were gathered from the survey as well as after it was analyzed with SmartPLS. With this, significant and insignificant variables were determined that can describe the inclination use of Filipino consumers toward online shopping applications. For the significant variables, PE influences BI signifying that users find online shopping to be beneficial for them to use, especially since the acquisition of items from physical stores has become difficult nowadays. Second, PI influences BI which can indicate that participants are more than willing in testing out new technologies, applications, or websites, specifically interested in trying new features or means of purchasing. Lastly, SI is observed to have an influence on BI meaning that the user has enough confidence and skills in order to operate online shopping applications which can be interconnected with the major transition to online operations such as jobs and education. Also, Droogenbroeck and Hove (2021) have mentioned that due to the repeated time of using the e-commerce service, the familiarity and skill of a user enhance over time.

On the other hand, the insignificant variable to BI is EE which interprets into the belief about the ease of use of online shopping applications either negatively or positively impacts one’s use of online shopping. This supports the statement of Greiff et al. (2016) that a minor inconvenience is unlikely to deter the average person from attaining their needs or wants. Second, PV is also seen to be insignificant, suggesting higher prices do not noticeably discourage users from purchasing goods online, nor do lower prices encourage these purchases. As Jiang & Zhou (2020) mentioned, the majority of the applications involve search filters to assist in locating items in multiple categories and in turn can be used to find the suitable item among price ranges for their needs. Third, the variable of FC is also seen to be insignificant which points out that having high-performing tools may not affect their use but prerequisites to access online shopping applications like internet connection and device remain to be imperative. It may be due to the influence of the pandemic wherein most people have bought gadgets, becoming a necessity to continue living. Lastly, SI is seen to be insignificant which can be explained by the mere suggestion of using online shopping applications by a friend, colleague, or relative does not necessarily add to one’s evaluation of engagement. Varying people recognize their own preferences and needs better, therefore, treating this influence serves as an invitation in using online shopping.

During the FGD, various views were considered from business professionals which contributed to supporting claims on the relationships, which were made applicable to the current national situation. Two business professionals from MySuki have pointed out how the pandemic pushed consumers to transact online, as it limits the movement of people. The statement supports the variable of PE as users perceive the convenience of using online shopping platforms without the need of going out. Additionally, professionals also have mentioned that users usually assess the possible

### Table 3

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>β</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE → BI</td>
<td>-0.050</td>
<td>0.109</td>
<td>0.454</td>
<td>0.325</td>
</tr>
<tr>
<td>EE → PE</td>
<td>0.673</td>
<td>0.084</td>
<td>8.017</td>
<td>0.000</td>
</tr>
<tr>
<td>FC → BI</td>
<td>-0.129</td>
<td>0.142</td>
<td>0.903</td>
<td>0.183</td>
</tr>
<tr>
<td>PE → BI</td>
<td>0.310</td>
<td>0.106</td>
<td>2.937</td>
<td>0.002</td>
</tr>
<tr>
<td>PE → BI</td>
<td>0.191</td>
<td>0.109</td>
<td>1.756</td>
<td>0.040</td>
</tr>
<tr>
<td>PV → BI</td>
<td>0.104</td>
<td>0.093</td>
<td>1.110</td>
<td>0.134</td>
</tr>
<tr>
<td>SE → BI</td>
<td>0.333</td>
<td>0.127</td>
<td>2.625</td>
<td>0.004</td>
</tr>
<tr>
<td>SI → BI</td>
<td>0.084</td>
<td>0.069</td>
<td>1.228</td>
<td>0.110</td>
</tr>
</tbody>
</table>

Note. BI = Behavior Intention, EE = Effort Expectancy, FC = Facilitating Conditions, PE = Performance Expectancy, PI = Personal Innovativeness, PV = Price Value, SE = Self-Efficacy, SI = Social Influence
benefits that can be earned by using an application.

Furthermore, several statements also verified how PI can influence BI. A marketing specialist from FoodPanda Philippines indicated that Filipinos are consumers who enjoy physical mall visits. Ever since the lockdowns, it led to the rise of different innovations in catering activities that are commonly done at malls. Consequently, not only the users but also physical stores and sellers have also innovated by switching to online selling in continuing the business, as mentioned by MySuki business professional 1. MySuki business professional 2 also added that when the pandemic came, people needed faster measures during the quarantine protocols, which motivated consumers to use online shopping as a substitute for physical shopping. On the other hand, EE, being insignificant, was explained by MySuki business professional 1 on overwriting the ease of use to its necessity. Since online shopping is perceived to be essential, whether the application is complicated or not, it does not largely affect their intention. Moreover, MySuki business professional 1 also discussed that consumers prefer vouchers and promotions rather than reductions in price as most consumers are not entirely convinced by price changes.

Dissimilarly, MySuki business professionals 1 and 2 disagreed on the result of SI being insignificant in the study. Both professionals mentioned that one of the marketing strategies heavily relies on the influence of online celebrities in the promotion of applications. MySuki business professional 1 portrayed an example of a famous Korean actor, which many Filipinos idolize, promoting Lazada which helped attract a lot of attention. This helped the platform widen its reach to other audiences, knowing that fans tend to trust the services endorsed by celebrities and influencers who are idolized.

4. CONCLUSIONS

In brief, the study was able to investigate the factors that influence the inclination of Filipinos towards online shopping applications during the COVID-19 pandemic as its relevance heightened due to the numerous transactions. Eight constructs of a modified UTAUT2 framework were considered to examine the perception of consumers through an online survey questionnaire to quantitatively measure the perception of users and non-users during this period. As the 142 valid responses were statistically analyzed with SmartPLS, Performance Expectancy (PE), Personal Innovativeness (PI), and, Self-Efficacy (SE) are found to be significant predictors of Behavior Intention (BI), Effort Expectancy (EE) positively influences PE, while EE, Facilitating Conditions (FC), Price Value (PV), and Social Influence (SI) are not significant to BI. These substantial results are then validated through a focus group discussion, leading to the completion of the objectives of the study.

These findings represent the common variables that describe consumers’ adoption of online shopping applications in their lifestyles. Accordingly, recommendations for online shopping platforms are that users can be kept engaged through its interactive features which should be updated regularly in consideration of the transition to digital workspaces while taking ease of use into consideration. With SI and PV being insignificant, the e-commerce industry may consider employing new marketing strategies, other than referral codes and discount vouchers, to further attract possible consumers into the marketplace.

As for the recommendation for future studies, further research may explore other factors, such as accessibility and willingness and various reliable research models. Scoping down the research, particularly focusing on smaller consumer groups that purchase specific products, may also be considered. The sample size can also be a concern, studies may extend the reach to those locations that are not largely exposed to internet adoption as the data may vary. As this development is considered to be a momentous step, risks can still be involved. Thus, consumers must be made aware of their use and changes in their lifestyle that are brought forth by technology adoption.

5. ACKNOWLEDGMENTS

For the opportunity of carrying out this research, thanks would greatly be given to De La Salle University Integrated School - Manila. The institution has provided subsidies to be used as grants for the participants. Also, appreciation would also be shown to acquaintances, such as friends, family, and those who participated in the study for their support and willingness to be involved in the research.

6. REFERENCES


