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# Factors Affecting the Continuance Intention to Use Food Delivery Apps of The Millennials in Ho Chi Minh City

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**Abstract**. Food delivery apps (FDAs) have experienced a meteoric rise in recent years, especially amidst the COVID-19 pandemic and the resulting governmental orders for social distancing. Though FDAs have been attracting significant interest in Vietnam and other Southeast Asian countries, the related issues of these apps have not been fully studied by academics and researchers. Additionally, most previous studies of mobile apps in general and FDAs in particular have simply addressed aspects related to intention to use and initial adoption of Vietnamese people. Hence, this research aims to go further by examining customers' satisfaction and their continuance intention to use (CI). Rather than being conducted on general customers as most previous studies, this study focuses on Millennials, a particular age group with distinctive characteristics, shopping habits and motivations (European Union, 2020). As this generational cohort proves to be the drivers for food delivery services, their crystal-clear insights when deciding to use FDAs continuously are undoubtedly valuable. This research proposed an integrated model incorporating UTAUT2, ECM, TTF and the variable of "Price-saving Orientation". Based on the Structural Equation Modeling (SEM), the findings supported all hypotheses, with Performance Expectancy (PE) validated to be the most influential factor shaping continuance intention to use FDA amongst the Millennials in Ho Chi Minh (HCM) city. Theoretical contributions and managerial implications derived from these findings presented practical guidance for academics and key participants within the FDA-related landscape.

**Keywords**. Food Delivery App, continuance intention, UTAUT2, ECM, TTF, Millennial

## 1. Introduction

Within the fourth industrial revolution, technology has been ingrained into almost every single facet of human lives, and the food and beverage industry is no exception (Deloitte, 2019). Online delivery services are reshaping the industry globally and locally since the number of consumers ordering food online in Vietnam skyrockets (Google and Temasek, 2019; Facebook and Bain & Company, 2020).

In fact, Vietnam's food delivery market has experienced spectacular growth over the last few years. According to the market research company Euromonitor International, food delivery market in Vietnam was valued at USD 33 million in 2018. This figure is expected to reach USD 38 million in 2020 and will sustain an average growth of 11% in the next 5-year period. Besides, based on the market research company Statista's reports, Vietnam's revenue

in the food delivery market is projected to amount up to USD 302 million in 2020. Revenue is expected to witness a compound annual growth rate of 16.5% during the 2020-2024 period, resulting in a market volume of USD 557 million by 2024. Despite this huge market value, compared to other Southeast Asian countries such as Indonesia and Singapore, the size of this market in Vietnam is still very small (Google and Temasek, 2019). Yet, thanks to that, Vietnamese food delivery market is considered a "golden" market that attracts a plethora of domestic and foreign investors.

Among the predominant food ordering and delivery methods, food delivery applications (FDAs) emerge as the most popular one, especially in the large metropolises such as Ho Chi Minh City (HCM city) and Hanoi (Q&Me, 2020). This finding is in line with the major rate of smartphone ownership (Q&Me, 2020), together with the growing trends of mobile application usage and e-commerce spending in food category within Vietnamese market.

Additionally, food delivery market is not only the playground of FDA providers, but also a profitable landscape for food and beverage (F&B) merchants, who register their food stall to provide food and/or drink via these platforms. Apparently, food delivery platforms enable merchant partners to reduce their expense and streamline several cumbersome processes, especially renting location, spending on advertising costs, and developing shipper workforce. Additionally, F&B merchants can receive consultancy from food delivery companies - in terms of market research, packaging, delivery, to name a few – so as to optimize their selling process.

In the light of COVID-19 pandemic and governmental orders for social distancing, food delivery service in Vietnam has been on a much more meteoric rise (Q&Me, 2020). Survey by ride-hailing firm GoJek reveals that food delivery demand has risen sharply. From February 2nd to 9th 2020, there were over 650,000 food orders on the platform, with the numbers increasing every day.

As regards consumers, for a large number of people, ordering food online has become a natural habit. There has been a remarkable change in consumers' lifestyle owning to rising urbanization and busy work schedules, which has obligated them to opt for convenient food delivery options (IMARC, 2019). This is especially true when it comes to the Millennials (those born from 1980 to 2000), who are time-starved and convenience-seeking consumers (Intage Vietnam, 2020). Specifically, recent surveys highlight that a large percentage of respondents order foods through FDA apps at least once a week (Q&Me, 2020). Such a trend tends to escalate during and even after COVID-19, as the eating out frequency decreased in account of health concerns (Zhao and Bacao, 2020).

In view of the growing usage patterns as well as thriving delivery market with the presence of a handful of FDA providers (Facebook and Bain & Company, 2020), it is a prerequisite to figure the exact drivers behind consumers' behavioral intention to continuously use these food delivery apps. However, given that online food delivery apps have been attracting significant interest in Vietnam and other countries in the Southeast Asian region, the related issues of these apps have not been fully studied by academics and researchers. Additionally, most previous studies of mobile apps in general and FDAs in particular have simply addressed aspects related to intention to use and initial adoption of Vietnamese people. Although first-time use is a crucial indicator of information system (IS) success, it does not necessarily promote the desired managerial outcome unless such use does continue in the longer term (Lyytinen and Hirschheim, 1987; Bhattacherjee, 2001). Therefore, this study entitled "Factors affecting the continuance intention to use food delivery apps of the Millennials in Ho Chi Minh city" will go further by examining customers' satisfaction and their continuance intention to use (CI), especially when most FDAs have been already popular and well adopted by customers.

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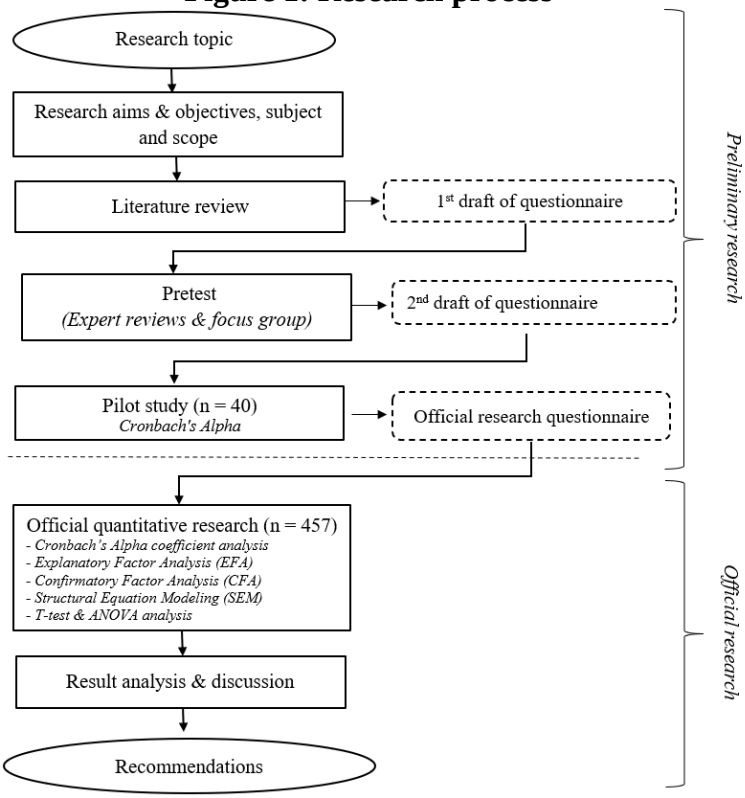
From that, some viable managerial implications and recommendations can be proposed so as to ignite future growth of FDAs and food delivery market as a whole.

## 2. Reearch Methodology

The detailed research process consisted of two main phases, namely preliminary research and official research, which was demonstrated in Figure 3.1 as follows:

**Figure 1: Research process**




*Source: Self-deprived by the author*

As regards the research model, this paper leveraged an integrated model based on UTAUT2, ECM and TFF while also adjusting one variable of the original model to make it more compatible with the research subject. Particularly, the model comprised of Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Condition (FC), Hedonic Motivation (HM), Habit (HB), Price-saving Orientation (PO), Perceived task-technology fit (TTF), Confirmation (COF), Satisfaction (SA), with its hypothesis paths presented as below:

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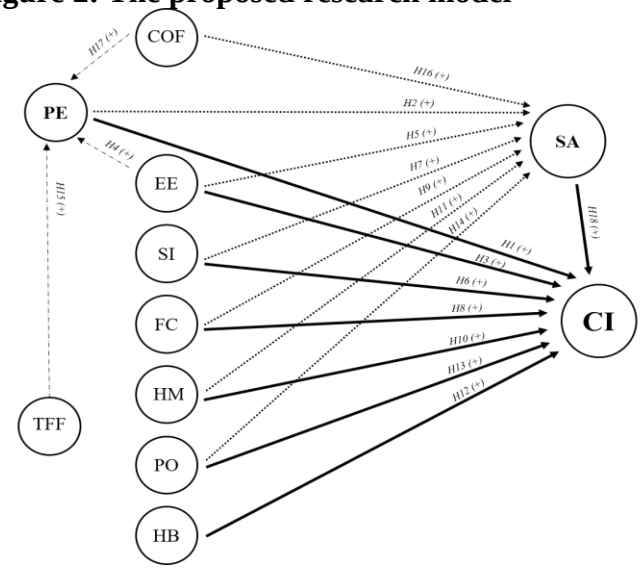
**Figure 2: The proposed research model**




*Source: Self-deprived by the author, 2020*

As regards data collection, this research utilized convenience sampling, which referred to a non-probability sampling type where members of the target population meeting certain practical criteria were included (Etikan et al., 2016). Appendix 2 exhibited all the measurement scales adopted for the study constructs. Accordingly, a questionnaire survey was designed and distributed online via social networks and email to eligible individuals. Most responses were accepted except ones by those living outside HCM city, never using FDAs and not being Millennials themselves. Specifically, out of 472 responses received, there were 457 valid responses which would then be used as input for statistical analysis.

## 3. Results

### 3.1. Statistical description

#### 3.1.1. Descriptive statistics analysis by demographics factors

Demographic factors included in this research were Gender, Age, Monthly income, Educational background, whose descriptive statistics were exhibited in Table 1.

**Table 1: Descriptive statistics analysis by demographics factors**

| Variable | | Frequency (N) | Valid Percent (%) |
|---|---|---|---|
| **Gender** | Male | 145 | 31.7 |
| | Female | 312 | 68.3 |
| | Total | 457 | 100.0 |
| **Age** | 20 – below 25 | 184 | 40.3 |
| | 25 – below 30 | 111 | 24.3 |
| | 30 - below 35 | 87 | 19.0 |
| | 35 - 40 | 75 | 16.4 |
| | Total | 457 | 100.0 |
| **Monthly income** | Below 5,000,000 VND | 34 | 7.4 |
| | 5,000,000 VND - below 10,000,000 VND | 84 | 18.4 |

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| | | | |
|---|---|---|---|
| | 10,000,000 VND - below 15,000,000 VND | 219 | 47.9 |
| | 15,000,000 - below 20,000,000 VND | 90 | 19.7 |
| | 20,000,000 VND and above | 30 | 6.6 |
| | Total | 457 | 100.0 |
| **Education background** | High school | 23 | 5.0 |
| | University/College | 391 | 85.6 |
| | Master | 36 | 7.9 |
| | Doctor of Philosophy (PhD) or Post Doc | 7 | 1.5 |
| | Total | 457 | 100.0 |

*Source: Data from IBM SPSS Statistics 20.0, 2020*

In terms of *Gender*, the majority of responses are female, which is consistent with survey by Statista (2020) and could be explained by that Vietnamese female usually take slightly more interest in ordering food online than male counterparts (Kim Dang at el., 2018). As for *Age*, the largest age group of respondents within this research is 20 - below 25 (40.3%), which is followed by 25 - below 30 age group (24.3%). This demographic profile is quite reasonable as consumer group from 20-30 typically emerges as the major purchasing power for online food delivery, according to Intage's 2019 report on Vietnamese Youth Lifestyle. Regarding *Monthly income*, most respondents have the income from 10,000,000 VND to below 15,000,000 VND on a monthly basis, indicating that respondents have decent or mid-high living income to spend on FDAs. In regards to *Educational background*, respondents already having University/College degree account for the largest proportion, standing at more than 85%. The majority of respondents with high education background could be seen as an advantage because this may probably ensure a certain higher level of common understanding and knowledge as to mobile application and also enhance the likelihood of submitting well-thought responses with higher accuracy.

### 3.1.2. Descriptive statistics analysis by measurement scales

Descriptive statistics revealed that all measurement items had their mean values being larger than 3.5/5. As regards factors proposed to directly/indirectly influence CI of Millennials FDA users, their mean values lie within range from 3.5 to 4.5, in which the lowest value is 3.59 and the highest value is 4.45. Hence, it can be concluded that these items also have certain impacts in formulating behavioral continuance intention to use FDA of the Millennials in HCM city. As regards the variable of CI of Millennials FDA users, mean values for its measurement items are all larger than 4.0. Such high indexes indicate strong intention of FDA users to reuse, continue using or/and use FDA(s) in the longer term.

### 3.2. Cronbach's Alpha coefficient analysis

The first-run result of Cronbach's Alpha coefficient analysis validated the strong internal consistency of all measurement items. Specifically, the index of Corrected Item — Total Correlation of all items are larger than 0.30, in which almost all items have this index of over 0.60 and even two lowest Corrected Item — Total Correlation indexes are as high as 0.594 and 0.598. In regards to the Cronbach's Alpha coefficients, these indexes of 11 variables are shown to be all above 0.70, with the highest index being up to 0.873 (CI). There are 10 out of

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11 variables that have Cronbach's Alpha coefficient within the range of 0.80 – 0.95, particularly, CI, SI, COF, SA, PE, HB, PO, HM, FC, EE, in the descending order. These figures denote a very good level of internal consistency of variables for the research model. Plus, the lowest Cronbach's Alpha coefficient obtained is also as high as 0.794, indicating a highly respective extent of reliability.

### 3.3. Explanatory Factor Analysis (EFA)

Upon the first-run of EFA, the EFA result for all variables delivered satisfactory results. Indices at Table 2 suggested that the factor analysis was adequate and there was qualified correlation among observed variables.

**Table 2: KMO, Bartlett's Test and Total Variance Explained**

| **Indicator** | | | **Value** *(for variables without CI)* | **Value (CI)** |
|---|---|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | | | .882 | .835 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | | 7193.219 | 885.562 |
| | df | | 666 | 6 |
| | Sig. | | .000 | .000 |
| Total Variance Explained | Rotation Sums of Squared Loadings | Cumulative % | 56.583 | 63.340 |

*Source: Data from IBM SPSS Statistics 20.0, 2020*

### 3.4. Confirmatory Factor Analysis (CFA)

The first stage involved testing the model's fitness leveraging CFA with all model-fit indices shown in Table 2:

**Table 3: Model-fit indices of measurement model (CFA)**

| **Criterion** | **Obtained value** | **Criterion** | **Obtained value** |
|---|---|---|---|
| CMIN/df ≤ 2: Good; CMIN/df ≤ 5: Acceptable | CMIN/df = 1.053 | TLI ≥ 0.9: Good | TLI = 0.995 |
| GFI ≥ 0.8: Acceptable; GFI ≥ 0.9: Good; GFI ≥ 0.95: Very good | GFI = 0.927 | RMSEA≤0.08: Good; RMSEA≤0.03: Very good | RMSEA = 0.011 |
| CFI ≥ 0.9: Good; CFI ≥ 0.95: Very good | CFI = 0.995 | PCLOSE ≥ 0.01: Acceptable; PCLOSE ≥ 0.05: Good | PCLOSE = 1.000 |

*Source: Data from IBM SPSS AMOS 24.0, 2020*

It is apparent that all the model-fit indices of measurement model respectively exceed the common acceptance levels, particularly three indices (CMIN/df, GFI, PCLOSE) reach good level and the other two (CFI, RMSEA) are validated to be very good. These figures demonstrate a respectable fitness of the measurement model.

As for Standardized Loading Estimates, factor loading values extracted by 41 scale items exceed the acceptance level of 0.5. Among them, 36 items having factor loading of above 0.7, reaching the ideal value for reliability test. These figures indicate all measurement items in

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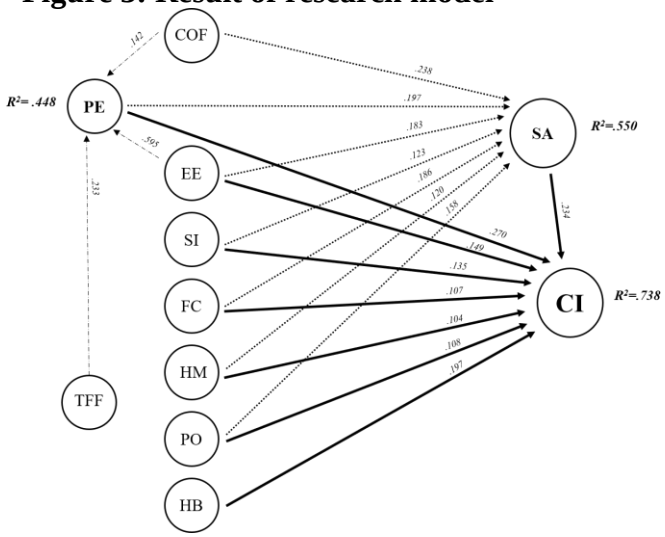
the model are statistically significant. As for other indices of reliability, convergent validity, discriminant validity test, CR and AVE indexes of all variables are higher than 0.7 and 0.5 respectively, with the highest CR value being around 0.874 (CI) and the highest AVE value being around 0.633. Hence, the model is validated to have no concerns over Reliability and Convergent validity. Furthermore, the square root of the AVE (SQRTAVE) values of all constructs is greater than the Inter-Construct Correlations. Plus, MSV value of a certain construct is also lower than its respective value of AVE. Hence, it can be inferred that discriminant validity is established.

### 3.5. Structural Equation Modeling (SEM)

**Figure 3: Result of research model**




*Source: Data synthesized from IBM SPSS AMOS 24.0, 2020*

Figure 3 illustrated the standardized regression weights, which indicated the impact magnitude of other variables on the dependent variables, including CI, SA and PE. As for CI, among eight factors, PE (β=0.270) is validated to be most impactful, followed by SA (β=0.234) and HB (β=0.197). Besides, COF proves to have the greatest influence in shaping SA with β=0.238, with the second and the third being PE (β=0.197) and EE (β=0.183). Regarding PE, this variable is significantly influenced by EE (β=0.595), TFF(β=0.233) and COF (β=0.42) respectively.

As for Squared Multiple Correlations ($R^2$), for CI, its $R^2$=0.738 suggested that 73.8% of the total variation in CI can be explained by the model, particularly by 08 factors (PE, EE, SI, FC, HM, PO, HB, SA). Furthermore, with $R^2$ being equal to 0.550, the independent variables (namely, PE, COF, EE, SI, FC, HM, PO) have statistically significant explanations for 55% of the variation of SA. Likewise, when it comes to PE, three variables of TTF, COF, EE can predict around 44.8% of variation within PE, whose $R^2$ stands at 0.448.

### 3.6. Independent Sample t-Test & One-Way ANOVA on demographic variables

The impact of gender on Millennials' continuance intention to use FDA was analyzed through Independent Samples t-Test while that of age, monthly income and educational background was tested through one-way ANOVA. The results indicated that there were no statistically significant differences in variance amongst different demographic groups. Besides, differences in demographics variables would not result in significant differences in the behavioral continuance intention to use FDA amongst the Millennials in HCM city.

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## 4. Result Discussion

### 4.1. Performance Expectancy (PE)

PE stands as the strongest determinant of CI and the second-strongest determinant of SA, which manifests the importance of the cognitive and functional benefits of FDAs from the HCM city Millennials customers' perspective. There present several appealing features provided by FDAs that allow for more mobility and flexibility in ordering food online compared to the traditional ways such as visiting restaurants in-person or telephoning them. Hence, FDA users, especially the tech-savvy Millennials, are enabled to save a great deal of time and effort. Such results pertaining to the significant influence of PE parallel those reached by Yeo et al. (2017), Okumus et al. (2018), Roh and Park (2019), Palau-Saumell at al. (2019), Lee at al. (2019), Alalwan (2020) on FDAs and other kinds of food apps such as diet apps or apps for restaurants.

### 4.2. Effort Expectancy (EE)

EE is also validated to influence both CI and SA to a certain extent. This finding is consistent with the survey results conducted by Q&Me (2020), which reveals that ease of ordering food though FDAs is greater compared to dedicated restaurant apps and ordering method via social networks. And this explains why ease of use of FDAs stands among the top reasons shaping respondents' satisfaction. Whereas there exist many studies that undermine the role of EE in satisfaction, intention to use/continuously use IS, the predictability power of this variable has been highlighted in several other papers, including Kim and Malhotra (2005), Kang (2014), Fang and Fang (2016), et al. (2019), Marinković et al. (2020).

### 4.3. Social Influence (SI)

Similarly, statistical results prove the significant influence of SI on CI and SA. As a connected generation (Taylor and Keeter, 2010), Millennial consumers, as well as their purchasing intentions, are typically shaped by others' opinions, especially those deemed as important or influential to them (Kantar, 2018). Such statistically significant relationships of SI on CI and SA have also been confirmed by Palau-Saumell at al. (2019), Roh and Park (2019), Zhao and Bacao (2020) on food apps, or Zhou and Li (2014), Lai and Shi (2015), etc. on other mobile technologies and IS.

### 4.4. Facilitating Condition (FC)

Whilst the impact of FC on CI is not as strong as other factors, FC emerges as the third most influential variable forming SA. Maillet et al. (2015) and Alalwan (2020) also confirmed that the availability of technical and human support performs a critical role for consumers to be pleased about their experience of adopting FDAs. Compared to SA, FC leaves fewer impact on CI, which could be attributed to the fact that FC are more related to the users' immediate experience (i.e. actual usage, satisfaction, etc) rather than long-term continuance intention (Alalwan, 2020). This is especially true for actual adopters who are digital-savvy - the target respondents of this study.

### 4.5. Hedonic Motivation (HM)

Although HM emerges as the least influential factor, this factor still performs an indispensable part in formulating FDA users' sense of satisfaction and their decision to continue using or reject these platforms. From psychological perspectives, those, who derive a sense of pleasure and enjoyment from the usage experience of FDAs, are more likely to keep using these applications in future (Davis et al., 1992; Van der Heijden, 2004). According to Alalwan (2020),

significant influence of HM is partly attributable to the novelty and innovativeness of FDAs, which may expedite the users' sense of pleasure and enjoyment. Considering the context of Vietnam, especially in HCM city, where FDAs have been widely adopted, particularly among convenience-driven Millennials, the role of HM may not be as strong as empirically investigated.

### 4.6. Habit (HB)

HB was statistically verified to be the third strongest predictor of CI. Such significant role of HB on continuous use intention has been empirically validated by Palau-Saumell et al. (2019) and Lee at al. (2019) on FDAs' CI, along with Morosan and DeFranco (2016), Amoroso and Lim (2017), Rana et al. (2017), etc. on mobile applications and e-commerce. Within today's ever-evolving mobile landscape, individuals are increasingly attached to their smartphones and develop a habitual behavior towards using the associated mobile apps. And once they have formulated a habitual pattern towards using a new system, there is every likelihood that they retain their motivation to adopt the system in future (Amoroso and Lim, 2017; Sun and Chi, 2018). Within this research, there presents a clear pattern that respondents, who claimed to order food many times through FDAs as a natural habit, are ones having greater measurement items underlying CI.

### 4.7. Price-saving Orientation (PO)

As an extended variable replacing Price Value construct of the original UTAUT2, PO is confirmed to exert statistically significant impacts on both SA and CI. Compared to traditional approaches of having meals, modern consumers prefer the availability of information on FDAs to facilitate comparison. Besides, several price-conscious users actively seek for discounts and special offers to such an extent that they feel FDAs more of a saving option of having meals. The statistically significant predictive power of PO has also been confirmed by many papers, including ones by Palau-Saumell et al. (2019) on restaurant apps, Dazmin (2019) on food delivery services and Akroush and Al-Debei (2015) on online shopping.

### 4.8. Perceived Task-Technology Fit (TTF)

As a pivotal construct extracted from the task-technology fit model, TTF is verified to perform a significant role in formulating users' PE in technology adoption. With FDAs' remarkable features, typically real-time tracking of food delivery, their functions meet users' requirements of accessing meals and/or food supplies, making users to perceive FDAs to be useful and compatible. This result replenishes findings from Kurniawati (2019), Roh and Park (2019), Zhao and Bacao (2020) that TTF is another antecedent of PE towards continuance usage of FDAs.

### 4.9. Confirmation (COF)

Not only TTF and EE but also COF is validated to be a notable predictor of PE. In synchrony, this variable also significantly determines SA, being validated to have strongest power of predictivity for SA. As COF reflects users' expectations formulated by their previous experience of IS use, the actual realization of expected benefits will definitely formulate a sense of satisfaction towards the continuance usage intention. Such statistical findings pertaining to the significant impact of COF on PE and SA parallel those proposed by Lee and Kwon (2011), Yuan et al. (2016), Alshurideh et al. (2020), etc.

### 4.10. Satisfaction (SA)

Under the influence of seven factors (namely, PE, COF, EE, SI, FC, HM, PO), SA concurrently emerges as the second-strongest predictor shaping continuance intention to use FDAs among Millennials in HCM city. Understandably, if consumers felt content with the outcomes of their prior behavior and experience, they intend to keep repeating such behavior – and continuance usage of FDAs is not an exception. Empirically, the role of SA as the top motivation for FDAs usage continuance has been supported by a plethora of previous papers in various fields of IS and mobile technologies, including Alalwan (2020) and Zhao and Bacao (2020) on FDAs.

## 5. Conclusion

Analytical findings confirmed the validity and reliability of all measurement scales as well as validated the proposed model. 08 proposed factors (namely, PE, EE, SI, FC, HM, HB, PO, SA) could explain 73.8% of the total variation in CI, which indicated the respectable predictive power and applicability of research model on the field of technology continuance usage. Other two variables of TTF and COF were also statistically proved to indirectly formulate CI via their relationships with PE and/or SA. On this ground, the author proposed some recommendations for key market participants, including FDA providers, F&B merchants, traditional restaurateurs and policy makers. Accordingly, this study contributes with some theoretical and practical implications as follows:

### 5.1. Theoretical Implications

The research enriched the literature of technology continuance usage, especially on the topic related to FDAs, which was still at the nascent stage. Remarkably, this research took critical technology-specific and lifestyle factors into consideration (i.e. via the construct of TTF and PO) so that this better reflected the actual FDA us pattern of Vietnamese users.

Besides, instead of being conducted on general customers as most previous studies, this research focuses on the Millennials, a particular age group with distinctive characteristics, shopping habits and motivations (European Union, 2020). As this generation proves to be the drivers for food delivery services, their crystal-clear insights when deciding to use FDAs continuously are undoubtedly valuable.

More importantly, the author undertook this research by leveraging an integrated model of UTAUT2, ECM and TTF with the variable of *Price-Saving Orientation*. So far, this is the first time this specific model has been employed, whether in Vietnam or all over the world, whether for FDAs or mobile apps in general. Thus, this research will constitute a new theoretical contribution, hopefully filling gaps in existing empirical studies.

### 5.2. Practical Implications

Besides its contribution to the theory, this study provides more practical and empirical understanding about the main factors that should be considered in designing and marketing FDAs. For instance, there should be more focus on speediness and accuracy in informing delivery time on food platforms, which are likely to affect user's perception of FDA usefulness and result in users' dissatisfaction accordingly (Q&Me, 2020).

Additionally, FDA providers should increasingly invest efforts into attracting more F&B partners, aiming to enhance food portfolio diversity. As an alternative to partnering with external restaurateurs, FDA providers can themselves develop their own cooking facilities so that they have full control over the whole process from preparing food to deliver meals to users' doorsteps. Apart from huge base of F&B partners, food quality provided by these partners

should be taken into close consideration. Compared to eating out, ordering food online does not allow consumers to see the product firsthand before making purchasing decision; thus, authentic information and image for specific meal portion are "must-haves". Poor quality of food not only hurts food stall's reputation but also indirectly affect users' perception over FDAs negatively.

Furthermore, intuitive and user-friendly technical design should be applied for FDAs. FDAs' interface, functional features, or in-app navigation should be designed in a way by which users can effortlessly and instantly have what they look for. Plus, further app update or continued development of other functionalities are welcomed, yet should not require much effort and adaptation from users.

FDA providers should also consider inviting key opinion leaders and launching referral and affiliate programs. Accordingly, FDA users would be incentivized to refer the platforms to their friends, colleagues or relatives in exchange of one-time referral payment or bonus; meanwhile, FDA providers can also run some affiliate programs, partnering with relevant affiliate sites in the mechanism of commissions.

Regarding the hedonic aspect, since users' sense of pleasure when using FDAs partly comes from the novelty and innovativeness of these platforms, developers may consider continuously innovating these apps' design along with developing entertaining mini-games, to constantly deliver enjoyable users' experience. Focus of promotional content within a long-run marketing campaign may be directed towards various facets of hedonic utilities associated with using FDAs.

Acknowledging the role of price-saving orientation, financial incentives and loyalty programs should be promoted for FDA users. FDA providers and their F&B partners should collaborate on how to establish the most optimal pricing scheme for food items. Charging fee for using FDAs is also strongly discouraged as additional expenses incurred by app users likely result in dissatisfaction and discontinued usage. This brings no incremental benefits to FDA providers in the long run.

To shape users' habitual usage patterns, some technical features can be embedded into FDA systems. Based on recent reports by Intage Vietnam (2020) and Q&Me (2020), lunch and teatime are two occasions when food delivery is most utilized, particularly among the age group of 20-30. Given that, FDA providers may consider adding push notifications, which recommend users' favorite food choices for lunch, or offer discounts tailored uniquely to food order at this time.

Meanwhile, with a view to facilitating users' efficient access and ordering of food items through FDAs, regular system monitoring, maintenance and update to verify the reliability and platform quality of FDAs should be necessitated. Some common issues of mobile apps such as slowing loading speeding and overwhelmed capacity at peak hours should be timely detected and resolved. In addition to basic functional capacities, FDA providers can take use of major advantages of mobile technology, such as personalization, responsiveness, ubiquitous connectivity, and active control, to design further advanced technical features with a view to enhancing users' experience of ordering food.

### 5.3. Limitations and proposed future research orientation

Regardless of marked theoretical and practical implications on FDA users' continuance intention, this study inevitably contains some limitations to be noted, which, yet, opens potential research avenues for future research.

*Firstly*, due to time constraint and lack of manpower, this research adopted convenience sampling method; thus, its generalizability to represent whole target population is limited and the estimates derived from these samples may be biased. Thus, to address this discrepancy,

future researchers should employ random sampling techniques; besides, wider research geographical scopes, larger sample size, along with longer duration for conducting research are highly recommended so as to extrapolate to the target population and produce more representative results.

*Secondly*, the research focuses on the FDA users' perspectives only, not approaching other organizational market participants such as FDA providers or F&B merchants. For this reason, some insightful data may not be taken into account and hence, certain proposals by the author may not be adequate. Future studies should invest time in gathering additional information from these groups, as well as focus on further aspects concerning platform owners and delivery personnel engaged with FDAs.

*Thirdly*, this study approached third-party FDAs as a whole, without distinguishing the differences among various platforms, which may be subject to certain level of inconsistency in responses by users of different FDA platforms. Such differences should be put into perspectives in future studies to deliver more practical managerial implications for one specific FDA provider.

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