Determinants of Gen Z Online Buying Behavior: A Quantitative Research

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ABSTRACT

Online shopping is growing at the fastest rate and gradually becoming a popular and trusted shopping channel of customers around the world, in which, the customer group accounts for a large proportion and tends to lead consumer behavior. Current and future online is generation Z. Therefore, this article focuses on analyzing factors affecting online shopping behavior of Gen Z in Vietnam, thereby proposing solutions to help businesses continue to approach and conquer this group of potential customers. To achieve the goal, the study conducted an online survey of 374 Gen Z e-buyers by means of convenient sampling nationwide, combined with the use of SPSS 25.0 software in factor analysis and linear regression analysis. Research results show that, STT, TDU are the factors that have a decisive impact on the online shopping behavior of Gen Z buyers.

Keywords: Behavior, Online shopping, Gen Z, Convenience, Responsiveness.

1. Introduction

Along with the development of technology and the internet and the impact of the Covid-19 pandemic, online shopping has quickly become a popular and trusted shopping channel for customers around the world. According to statistics in the three years of 2019-2021 in Vietnam, the percentage of internet users participating in online shopping has increased by 11%, 20% and 53% per year with the retail e-commerce market size reaching 13 billion USD in 2021, and is expected to reach 52 billion USD in 2025, among the 3 countries with the highest growth rate of online retail market share in Southeast Asia (Ministry of Industry and Trade, 2021). With about 49.3 million participants For online shopping, Vietnam is the country with the highest percentage of people shopping for e-commerce in Southeast Asia and an attractive market for investors in the future. The increase in the number of online shopping participants, the one-time purchase value increasing from 229 to 240 USD are the factors contributing to the increase in the proportion of B2C e-commerce retail revenue reaching 5.5% compared to the total retail sales, goods and service revenue nationwide (E-commerce Department, 2021). The audience participating in online shopping the most are Generations Y and Z with selected typical items such as food, clothing, cosmetics and home appliances (PwC Vietnam, 2020), in which, group Customers who account for a large proportion and tend to lead current and future online consumption behavior are Generation Z. Generation Z (Gen Z) is a term used to refer to citizens born in this period. 1995-2012, Gen Z was exposed to technology devices very early, grew up with the strong development of social networks, electronic and digital world, so they are called "sensitive tech generation".

In Vietnam, Gen Z accounts for 21% of the country's population and is becoming the leading target customer segment of businesses, they deeply influence the trends and user behavior of the time, present as well as in the future. Therefore, retailers and researchers are trying to understand and analyze the needs and shopping behavior of Gen Z to take measures to approach and conquer this group of potential customers in online shopping. (Rajagopal, 2011) said that research on online shopping behavior in general and online shopping of Generation Z has been of great interest to
international researchers since very early, in which initial judgments about influencing factors on online buying behavior, including the level, gender of the customer, the seller's internet and the variety of goods, in other words personal characteristics and physical conditions are two main groups of factors affecting Online shopping intentions and decisions of Gen Z. Bagga & Bhatt, (2013) indicate that consumers are tending to switch from crowded stores to sitting at home, surfing the web and shopping without jostling, so convenience and time saving are evaluated as two factors affecting online shopping behavior of customers. Agree with (Rajagopal, 2011), Chandra & Sinha (2013) based on the TBP model that demographic factors, desire, online buying attitude, subjective norm and perceived behavioral factors are the factors impact on online shopping. Similar to the research of Pham Quoc Trung & Nguyen Ngoc Hai Ha, (2017) affirms that demographic factors, desires, online buying attitudes, subjective standards and perceived behavioral factors are factors impact on online shopping. Our research aims to explore the factors that influence youth in general and Gen Z to purchase products and services from online retailers, (Brown et al., 2007) (Vu Thi Hanh). et al., 2022) for all six factors are (i) relevance; (ii) Diversity; (iii) Sense of time; (iv) Convenience; (v) Promotion and (vi) Comparison both have a positive impact on young people's online shopping. Jaiswal & Singh, (2020) identifies variety, low price, trust, promotion, timing, comparison, attitude, convenience, perceived ease of use, and customer service as factors important influence on the online shopping behavior of young people. In other studies by Nguyen Thi Bao Chau & Le Nguyen Xuan Dao, (2014), Nguyen Hoang Diem Huong et al (2016), Ha Ngoc Thang & Nguyen Thanh Do (2016) Bui Thanh Trang & Ho Xuan Tien, (2020) and Vu Thi Hanh et al (2022) on online shopping behavior of urban people and young people also have interference in the results, most notably factors such as convenience, Product diversity, shopping confidence, shopping risk, and subjective standards have the strongest impact on online shopping behavior. Thus, there are diverse approaches and differences in determining factors affecting online shopping behavior of young people in general and Gen Z in particular. On the basis of an overview analysis of the literature and the characteristics of Generation Z, the study focuses on analyzing (1) the group of factors belonging to online shopping service providers such as the variety of goods, the convenience of the customers, and responsiveness of the sales website/fanpage; (2) the group of factors that belong to Gen Z's perceived behavior include perceived service reliability, shopping confidence and purchase risk. To achieve the goal, an online survey was built and applied on a national scale by means of a convenient non-random sampling method. Statistical software SPSS 25.0 is applied for factor analysis, reliability testing, linear regression analysis and determining the level of impact of each factor on shopping online shopping behavior of Gen Z.

2. Theoretical basis of factors affecting online shopping behavior of Generation Z

2.1. Gen Z's online shopping behavior (OBB)

Gen Z's online shopping behavior is understood as all behavioral manifestations from forming purchase intention, choosing to buy and making a purchase decision, from choosing to analyzing items, conditions and purchasing methods. Customers will gradually form trust and purchase decisions. Each group of customers will have different buying behavior, for Generation Z, who are very tech-savvy, they will seek to survey the supplier's sales activities through reading customer comments, visiting the company's website, etc. company before buying or seek expert
opinion online before purchasing a valuable product. Besides, the use of reference groups is also applied by Gen Z such as asking family and friends for advice before buying (Nguyen Thi Bao Chau and Le Nguyen Xuan Dao, 2014; Jadhav and Khanna, 2016).

After feeling confident and satisfied about the quality of products and services, Gen Z often tends to continue buying online and recommending to friends and relatives to use the buying channel, this is a strong factor leading to the decision to buy goods online.

2.2. Convenience (OC)

Convenience is understood when Gen Z does not need to travel or waste time to go out to search and shop for goods. Instead, they just need to sit anywhere there is an internet signal with a few simple steps to be able to shop as much as they want. Besides, online shopping has more payment methods such as cash, transfer, payment via e-wallet, reward points,... that creates attraction in Gen Z's consumption experience.

Therefore, the research results of Vijay & Balaji (2009), Jadhav & Khanna (2016), Nguyen Thi Bao Chau & Le Nguyen Xuan Dao (2014), Dao Manh Long (2018), Rishi (2020) all suggest that the Convenience is a strong influence on the online shopping behavior of the young generation, including Gen Z.

2.3. Diversity of goods (GD)

Diversity of goods is understood as most of the items that can be purchased online as in the traditional way of shopping, even easier access to a variety of goods, not limited by geographical scope. The diversity of goods is also understood as the quantity and type of products that can be accessed on an online purchase. It is clear that according to this approach criterion, the online market will be more attractive than the traditional market, especially in the current period when the disease outbreak, travel restrictions and travel costs between regions are increasing day by day. The more expensive it becomes due to the increase in gasoline prices and the narrowing of shopping time, the more convenient and diversified access to goods on the online channel will be.

Therefore, in the study of Sultan & Henrichs (2000), Vijay & Balaji (2009), Jadhav & Khanna (2016), Nguyen Thi Bao Chau & Le Nguyen Xuan Dao (2014) all studied the impact of diversity on online shopping behavior.

2.4. Responsiveness of Shopping Platforms (OF)

Responsiveness of a shopping platform is understood as the ability to provide services at the same time to many buyers of a website or Fanpage. Responsiveness is mentioned by Santos (2003) as speed of order processing, ease of purchase; Nguyen Thi Bao Chau & Le Nguyen Xuan Dao (2014) consider responsiveness to be the comfort and ease of shopping, giving customers an "easy" experience when searching, comparing and choosing goods. online shopping; Rishi (2020) again evaluates from the perspective of convenient accessibility of the shopping website, especially the suggestion of similar products and bundled items that give Gen Z an enjoyable and convenient experience.

Regardless of the approach, the responsiveness of the shopping platform also strongly influences Gen Z's decision to visit and shop, because if the website is responsive, it gives customers a space and experience. Good shopping
and customer care will be prioritized by Generation Z to choose what to wear, the price may be slightly higher than other stores (Vu Thi Hanh et al., 2022).

2.5. Perceived Trustworthiness (OT)

Perceived reliability means the peace of mind and trust of customers when choosing to shop online, they feel that this is a trustworthy address, not afraid of being scammed or selling the wrong goods with advertising. According to research by Deloite (2021) Vietnamese consumers in general and Generation Z in particular are increasingly trusting this modern form of shopping, the higher the trust, the higher the frequency of the world's online shopping choices. system Z (Jadhav & Khanna, 2016).

In addition, service providers are also making efforts to provide customers with the most suitable services with the most convenient sales and return support policies for customers to trust and be more satisfied. Promotions and advertisements are also more "real" so that customers are not "hallucinated" when buying online, the trust of Gen Z in online shopping is also tested by reviewing the positive feedback of customers. those who have purchased before or have acquaintances in the seller's customer list (Jadhav & Khanna, 2016; Nguyen Thi Bao Chau & Le Nguyen Xuan Dao, 2014).

2.6. Online shopping (OB) trust

When online shopping has a positive impact on consumers, they will have confidence in online shopping, sellers, and online payment (Nguyen Thi Bao Chau and Le Nguyen Xuan Dao, 2014). Then they will continue to buy online and also introduce and guide friends and relatives to use this form of purchase.

Besides, when the role of an online shopping channel is recognized and developed, it will attract the attention of consumer rights protection agencies and the community, thereby creating confidence for the young generation when shopping.

2.7. Purchasing and financial risk (OR)

In addition to the convenience and variety of goods, online shopping also has many potential risks in the process of accessing, choosing to buy, paying and shipping. One of the first risks to mention is that the actual purchased goods are not the same as the pictures shown on the website or are lost during transportation (Bui Thanh Trang & Ho Xuan Tien, 2020; Dao Manh Long, 2018); Ha Ngoc Thang & Nguyen Thanh Do, 2016) or the next risk is financial when it is possible to leak information, personal account or risk losing money when exchanging goods (Hoang Diem Huong et al. al., 2016). These are factors that cause anxiety and hinder the online buying process of Gen Z customers, so they need to be eliminated and filled with services that create trust for customers (Ha Ngoc Thang & Nguyen Thanh Do , 2016).

In which Convenience (OC), Diversity of goods (GD), Responsiveness of shopping platforms (OF), Perception of trust (OT), Online shopping trust (OB), Purchase and financial risk (OR) are independent variables while Online shopping behavior (OBB) is the dependent variable in this study.
3. Research models and methods

3.1. Research model and hypothesis

From the analysis on the research model built as follows:

| Convenience (OC) |
|------------------|
| Diversity of goods (GD) |
| Responsiveness of shopping platforms (OF) |
| Perception of trust (OT) |
| Online shopping trust (OB) |
| Purchase and financial risk (OR) |

![Fig.1. Gen Z's online shopping behavior model](image)

**Research hypothesis**

-H1, H2, H3, H4, H5 respectively: Convenience (OC), Diversity of goods (GD), Responsiveness of shopping platforms (OF), Perception of trust (OT), Online shopping trust (OB) has a positive impact on the online shopping behavior of Gen Z.

-H6: Perceived purchase and financial risk (OR) has a negative impact on Gen Z's online shopping behavior.

3.2. Research scale

From the results of the review of documents on OBB through the Desk research method to synthesize and collect data, which are research publications in the form of articles, book chapters in the field of research. Researching from the data system of Web of science, Elsevier, Scopus, ProQuest, SpringerLink, Researchgate, Google scholar have published major studies from 2010 to present, some original theoretical studies have time. From the publication since 2001, the author has formed a research framework and research model. On the basis of inheriting the scale of Uzun & Poturak, (2014), Sinha (2010), Jadhav & Khanna (2016), Vu Thi Hanh et al (2022), Bui Thanh Trang & Ho Xuan Tien (2020), Dao Manh Long (2018), Ha Ngoc Thang & Nguyen Thanh Do (2016) and Hoang Diem Huong et al., (2016) the authors develop additional scales suitable for Generation Z such as “A website with a recognition system, purchases and reviews and comments from previous buyers”, “The website has a virtual
assistant and digital technology ready to answer many of my questions about the product”, “The website regularly suggests to me about similar products”, "feels confident in the role of a consumer protection agency in the field of e-commerce”, "may overspend if I shop online". From there, the author builds a list of 37 observed variables, in which there are 32 independent observed variables and 5 dependent observed variables. The 5-point Likert scale (from 1 to 5) applied in the research includes 1. Strongly disagree, 2. Disagree; 3. Neutrality; 4. Agree; 5. Strongly agree.

3.3. Research sample

This study uses exploratory factor analysis (EFA) and multivariate regression, so it requires at least 05 -10 observations for 1 variable (Hair, Black, Babin, & Vaserson, 2019). From there determine the minimum suitable sample size is from 37x10=370 observations. The study uses cross-sectional data based on the survey of Generation Z in localities in Vietnam. The survey was conducted online through a Google form from January 2022 to March 2022 through a convenient non-random sampling method applied, the survey link was publicly shared on social networks. Zalo, Facebook and direct email to Gen Z groups of Vietnam. To ensure the reliability of the research, the survey will stop when the sample level is reached as expected. After 2 months of survey, 374 votes are eligible to perform the analysis.

4. Research results

4.1. Descriptive statistics of the research sample

The survey results show that the percentage of women shopping online is higher than that of men, the age group from 18-24 accounts for the highest rate with 58% mainly high school students and students, from 16-18 years old and the target audience is college students, middle school and high school students. This makes perfect sense because students are very active and like to discover new things from a very early age, so they actively look for jobs and do part-time jobs, which are subsidized by their families, so they earn a lot.. The proportion of people with income accounts for 80% of which incomes over 2 million accounted for 50%, this is consistent between survey subjects, interviewees and the demographic reality of Gen Z.

| Content         | Quantity | Ratio  | Content            | Quantity | Ratio  |
|-----------------|----------|--------|--------------------|----------|--------|
| Sex             | 374      | 100%   | Job                | 374      | 100%   |
| Male            | 154      | 41.7%  | Elementary pupils  | 3        | 0.8%   |
| Female          | 220      | 58.3%  | Secondary school students | 5        | 1.3%   |
| Địa phương     | 374      | 100%   | High school students | 89       | 23.8%  |
| Miền Bắc        | 182      | 49%    | Undergraduates     | 173      | 46.3%  |
| Miền Trung      | 106      | 28%    | Free workers       | 91       | 24.4%  |
| Miền Nam        | 86       | 23%    | Officers           | 21       | 5.6%   |

Table 1. Descriptive results of the study sample
The frequency and quantity of products purchased online by Gen Z are also quite typical with the frequency of purchase, selected items, payment methods, time of purchase and value of each purchase.

*Fig.2. Description of Gen Z's online buying behavior*
4.2. Reliability test results Cronbach's Alpha

The results of the Cronbach's Alpha reliability test show that all observed variables are reliable except for the variable OC3 with Cronbach's Alpha coefficient > 0.6 and the total correlation coefficient (Corrected Item - Total Correlation) > 0.3. Except for the observed variable OC3 whose coefficient of Cronbach's Alpha is larger than the correlation of the total variable, it is excluded. The second reliability analysis showed that 100% of the remaining observed variables were suitable.

**Table 2. Cronbach's Alpha reliability test results**

| Coding | Research variables                  | Observable variables | Coefficient Cronbach's Alpha |
|--------|-------------------------------------|----------------------|------------------------------|
| OC     | Convenience                         | 5                    | 0.896                        |
| GD     | Diversity of goods                  | 4                    | 0.889                        |
| OF     | Shopping platform responsiveness    | 5                    | 0.885                        |
| OT     | Feelings of trust                   | 5                    | 0.869                        |
| OB     | Online shopping trust               | 5                    | 0.852                        |
| OR     | Feel the risk of buying             | 6                    | 0.898                        |
| OBB    | Online shopping behavior of Gen Z   | 5                    | 0.781                        |

(Source: Analysis of research survey results)

This means that the scale is suitable for the variables being considered and accepted in the model and is eligible for EFA analysis.

4.3. Exploratory factor analysis EFA

The results of KMO and Bartlett's Test for the independent variables are as follows.

**Table 3. Results of KMO and Bartlett's Test**

| KMO and Bartlett's Test | Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | .875 |
|-------------------------|-------------------------------------------------|------|
| Bartlett's Test of Sphericity | Approx. Chi-Square | 9932.425 |
|                         | df                                | 435  |
|                         | Sig.                               | .000 |

(Source: Analysis of research survey results)

The KMO test results show that the KMO coefficient is 0.875 > 0.5, helping us to conclude that the factor analysis is completely consistent with the research data. At the same time, the Bartlett test result is 9932.425 with the
significance level $\text{Sig} = 0.000 < 0.005$, showing that the observed variables are correlated with each other in the population. Eigenvalue $= 1.180 > 1$ at factor 6, from factor 7 onwards, Eigenvalue $= 0.961 < 1$ means that the model has 6 groups of factors affecting Gen Z online shopping behavior. This result is in full agreement with the number of independent variables in the theoretical model drawn above.

**Table 4.** The results of EFA exploratory factor analysis are as follows:

| Component | 1    | 2    | 3    | 4    | 5    | 6    |
|-----------|------|------|------|------|------|------|
| OR5       | .862 |      |      |      |      |      |
| OR6       | .859 |      |      |      |      |      |
| OR3       | .757 |      |      |      |      |      |
| OR2       | .728 |      |      |      |      |      |
| OR4       | .585 |      |      |      |      |      |
| OR1       | .522 |      |      |      |      |      |
| OC1       |      | .772 |      |      |      |      |
| OC4       |      | .724 |      |      |      |      |
| OC6       |      | .654 |      |      |      |      |
| OC5       |      | .617 |      |      |      |      |
| OC2       |      | .563 |      |      |      |      |
| OT4       |      |      | .723 |      |      |      |
| OT1       |      |      | .693 |      |      |      |
| OT5       |      |      | .675 |      |      |      |
| OT2       |      |      | .671 |      |      |      |
| OT3       |      |      | .653 |      |      |      |
| OF4       |      |      |      | .760 |      |      |
| OF1       |      |      |      | .759 |      |      |
| OF5       |      |      |      | .737 |      |      |
| OF3       |      |      |      | .723 |      |      |
| OF2       |      |      |      | .563 |      |      |
| OB2       |      |      |      |      | .823 |      |
| OB5       |      |      |      |      | .750 |      |
| OB4       |      |      |      |      | .711 |      |
| OB3       |      |      |      |      | .670 |      |
| OB1       |      |      |      |      |      | .646 |
4.4. Regression model and hypothesis testing

Based on the results of exploratory factor analysis, the model is determined to include 6 independent variables and 1 dependent variable. The F-test in the ANOVA analysis of variance was used to determine the fit of the overall model, and the t-test was used to test the significance of the coefficients of the independent variables in the model.

Table 5. Results of multiple linear regression analysis

| Model          | Sum of Squares | df  | Mean Square | F-value | Sig.  |
|----------------|----------------|-----|-------------|---------|-------|
| Regression     | 115.427        | 6   | 19.238      | 639.180 | .000  |
| Residual       | 10.173         | 338 | .030        |         |       |
| Total          | 125.600        | 344 |             |         |       |

a. Dependent Variable: OBB, b. Predictors: (Constant), OR, OB, GD, OF, OT, OC

The regression model has the following form:

Table 6. Coefficients of regression model

| Model          | Unstandardized Coefficients | Standardized Coefficients | t-value | Sig. | Collinearity Statistics |
|----------------|----------------------------|---------------------------|---------|------|-------------------------|
| (Constant)     | .472                       | .107                      | 4.409   | .000 |                         |
| OC             | .205                       | .021                      | .240    | 9.600| .000                    |
| GD             | .135                       | .023                      | .137    | 5.894| .000                    |
| OF             | .235                       | .023                      | .233    | 10.418| .000                    |
| OT             | .185                       | .027                      | .173    | 6.960| .000                    |
| OB             | .213                       | .019                      | .226    | 11.335| .000                    |
| OR             | -.130                      | .014                      | -.190   | -9.380| .000                    |

a. Dependent Variable: OBB

(Source: Analysis of research survey results)
All variables have Sig < 0.05, meeting the research model. VIF coefficient < 2, so there is no multicollinearity phenomenon. Regression model of factors affecting online shopping behavior of Generation Z has the following form:

\[ \text{OBB} = 0.235 \text{OF} + 0.213 \text{OB} + 0.205 \text{OC} + 0.185 \text{OT} + 0.135 \text{GD} + (-0.130) \text{OR}. \]

4.5. Discussing Research Results

All hypotheses in the research model are accepted with the coefficient Sig<0.5, in which there are 5 independent variables that have a positive impact and 1 variable that has a negative effect (obstructing shopping behavior) which is the level of However, the level of impact is not strong, so Gen Z almost ignores this perception to continue buying online.

Research results show that the responsiveness factor of shopping platforms has the strongest impact on Gen Z's online shopping behavior, which is consistent with Gen Z's love of technology discovery as well as similarity. with the research results of Santos (2003), Rishi (2012) and Nguyen Hoang Diem Huong et al (2018). Factors such as shopping trust, perceived trust in shopping and convenience are factors that have a strong influence on buying behavior, which is similar to the study of Vijay & Balaji (2009), Jadhav & Khanna (2016), Vu Thi Hanh et al (2016), Nguyen Thi Bao Chau & Le Nguyen Xuan Dao (2014).

Particularly, the perceived risk factor has the opposite effect, consistent with the proposed research hypothesis as well as the comments in the study of Ha Ngoc Thang & Nguyen Thanh Do (2016). In addition, the study also found that there is a very strong impact between website quality, customer feedback and care, product comparison and recommendation system, and assurance of trust in shipping entrustment. strongly influence the online shopping behavior of Gen Z.

5. Proposed Solutions

From the research results, the author has some recommendations for businesses and state management agencies as follows:

For businesses: it is necessary to focus on improving the trust and quality of customer experience by website quality, timely feedback and product quality that must be similar to the selling price and advertising image; Choosing a partner to supply goods as well as transport must be reliable and fast to ensure customer satisfaction in shopping; The website should have an account login mode and multi-layer security if customers use linked accounts on the website. These are the things that will make the Gen Z experience more convenient, thereby creating trust in online shopping.

For state management agencies: For safe online shopping and effective online business, by 2025, online shopping revenue will account for 10% of total sales of goods. It is necessary to have the following synchronous solutions: propaganda to raise awareness of business safety-sustainable online shopping to equip sellers and buyers with knowledge and online business culture; There are sanctions to protect the interests of online consumers as well as strictly punish fraudulent acts thereby creating trust in consumers; Promote the development of information technology infrastructure such as the internet, data management system to make it easier for people and businesses to buy and sell activities.
6. Conclusion

Online shopping is increasingly exciting and brings advantages, efficiency and maximizes the user experience, thus receiving the attention of both sellers, buyers and state management units. Therefore, in the past time, the development rate of online shopping has continuously grown to 50%/year in 2021 and is expected to explode in 2022. The shopping force most interested in are Generations Y and Z, in which Gen Z is considered to have the potential to develop and orient online consumption needs. An internship study in building a theoretical framework and analyzing the influence of factors on online shopping behavior of Generation Z in Vietnam in the period of 2019-2022, focusing on survey data from January 2022 to January 2022. March 2022.

The results show that there are 6 factors affecting the online shopping behavior of Gen Z, in which the responsiveness of the shopping platform has the strongest impact, followed by Shopping trust and perception. Trust in shopping and convenience are factors that have a strong and positive impact on Gen Z's consumption behavior, respectively, but the perceived risk factor has a positive but not too strong impact, so basically, the level of hindrance to Gen Z's buying behavior has not been concluded.

From the research results, the author proposes 2 groups of solutions for online business enterprises and state management agencies to further improve purchasing activities. From there, create trust and a sense of security for customers.

Declarations

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Competing Interests Statement

The authors declare no competing financial, professional and personal interests.

Consent for publication

Authors declare that they consented for the publication of this research work.

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