

# Does Personality Influence the Frequency of Online Purchase Behavior?

Abu H. Ayob, National University of Malaysia, Malaysia\*

Siti Daleela Mohd Wahid, Universiti Teknologi MARA, Malaysia

Nor Asiah Omar, National University of Malaysia, Malaysia

## ABSTRACT

Scholars have acknowledged the influence of personality traits on individuals' behavior. However, the effect of personality on (repetitive) online purchase behavior remains under-explored. This is a considerable deficit in knowledge because a marketing paradigm has shifted its interest to examine strategies for attracting new buyers as well as retaining existing customers. To further the understanding of this issue, this paper attempts to examine the relationship between the Big Five personality traits—openness, conscientiousness, extraversion, agreeableness, and neuroticism—and the frequency of online purchases among 386 university students in Malaysia. Through a structural equation modelling analysis, the authors found that extraversion, agreeableness, and neuroticism were positively related with the frequency of online purchases. In contrast, openness and conscientiousness showed no significant effect. Overall, this research suggests that marketers should target buyers with certain personality traits because they are likely to use online platforms more often for purchasing items.

## KEYWORDS

Big Five Personality, Malaysia, Online Purchase, Personality, Repetitive Purchase, University Students

## INTRODUCTION

Online business, commonly known as e-commerce, refers to the process of selling and buying goods or services via computer networks using protocols specifically designed for that purpose (Organization for Economic Co-operation and Development, 2011). However, e-commerce today is not limited to handling only business transactions. It also involves exchanging, sharing, and storing personal information (Dutta, 1997). Unfortunately, such personal data not only are available to the seller but also can be exploited by other parties. Hence, online purchasing has become riskier than conventional shopping, resulting in strong resistance from customers.

Research on factors explaining the willingness of individuals to use online platforms for buying items has progressed substantially in recent years. However, the existing literature focuses heavily on the supply-side factors of the websites themselves, such as perceived enjoyment (Brusch and Rappel, 2020) and ease of use (Xia et al., 2018). Although such studies merit acknowledgement, we still lack an understanding of the impact of personality on e-commerce purchases. Indeed, this represents a considerable gap in the literature because personality has long been recognized as a dominant approach for understanding the subsequent behavior of individuals (Gohary et al., 2014).

DOI: 10.4018/IJOM.299398

\*Corresponding Author

This article published as an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and production in any medium, provided the author of the original work and original publication source are properly credited.

While a few studies have considered personality as the determinant of several online shopping dimensions, such as intention to buy online (Dobre and Milovan-Ciuta, 2015) and impulsive purchases (Leong et al., 2017), the effect of personality traits on a specific online buying behavior — that of repetitive purchase — remains under-explored. To fill this gap, this study attempts to examine the effect of the Big Five personality traits (BFP) — agreeableness, neuroticism, extraversion, openness, and conscientiousness — on the frequency of online shopping.

While intention to buy online is mainly tested using predictive models of planned behaviour (Ajzen, 1991) and technology acceptance models (Lee et al., 2003), impulsive purchases involve unplanned, unreflective, and spontaneous purchasing (Piron, 1991). In this study, we focused on repetitive online purchasing as our dependent variable. To measure it, we employed the frequency of online shopping as a proxy to determine how often buyers use websites to make a purchase. The more frequently buyers purchase via the internet, the more frequently they use online platforms for shopping repeatedly. As the internet becomes an important means for conducting many activities, it is beneficial specifically for marketers to ensure that customers buy online and continue to do so in the future (Chiu et al., 2012). In fact, sustainable profits in the e-commerce market depend on how successfully businesses retain existing online shoppers (Hu et al., 2015; Wen et al., 2011).

As a contextual contribution, we tested our model amongst university students, an important social group in marketing research. Although the spending capability of students is often limited, they are well-educated and have a strong exposure to technology (Hu et al., 2009). According to the Internet Users Survey 2018 by the Malaysian Communications and Multimedia Commission, full-time students represent around 12.1 percent of all internet users in Malaysia. Also, the largest group of internet users comprises individuals in their 20s, who spend about 8 hours a day browsing the internet, half of which is spent in online shopping. Thus, university students provide an insightful context for research exploration.

## **PERSONALITY AND ONLINE PURCHASE BEHAVIOR**

Most online business activities are handled virtually during pre-purchase (i.e., information seeking), actual purchase (i.e., payment), and post-purchase (i.e., feedback, review, and after-sales service) stages. Accordingly, the decision to purchase at online stores involves various psychosocial states including sensory reactions, perceptions, attitude formation, preferences, satisfaction evaluation, and loyalty formation (Dobre and Milovan-Ciuta, 2015). As such, repetitive online purchasing behavior and its relationship to customers' personality traits demands a comprehensive investigation.

Whilst initial purchase explains the likelihood that a potential customer purchases from an online seller for the first time at a given time, repeat purchase defines the subjective probability that the same customer will continue to buy a product using the same online channel (Davis, 1989). Therefore, the critical aspect to understand the purchasing experience occurs at the end of the initial purchase process because it greatly influences the likelihood that existing customers will return to the same online site (Ariely and Carmon, 2000).

Accordingly, both academics and practitioners acknowledge the importance of distinguishing between new and repeat customers in the online commerce industry. The literature argues that the two segments differ with regard to their motivations and activities related to the purchase of online products or services, whereas online sellers assert that the classification helps them in strategizing the market segmentation (Ryu and Han, 2011). For example, potential customers and repeat customers possess different amounts of information and use different criteria for making purchase decisions. Specifically, compared to the former, the latter are more knowledgeable in understanding and analyzing the information of an online store due to their previous experience using the platform for shopping (Kim and Gupta, 2009).

Literature in many disciplines utilizes the Big Five Model of Personality by McCrae and Costa (1990) as an underpinning framework to define the personalities of individuals (e.g. Ayob and

Makhbul, 2020). The Big Five personality traits (BFP) consist of five dimensions: agreeableness, neuroticism, extraversion, openness to experience, and conscientiousness. Everyone possesses all five traits but at different levels (e.g., a person might be high in agreeableness and neuroticism but low in the other traits).

Prior studies in marketing have examined the effects of BFP on two common online purchase spectrums: intention to buy online (Bosnjak et al., 2007; Huang and Yang, 2010) and online impulse purchases (Badgaiyan and Verma, 2014; Thompson and Prendergast, 2015; Turkeyilmaz et al., 2015). Findings from these studies consistently show that openness is positively related to the willingness to buy online, while extraversion and conscientiousness significantly influence impulse purchases.

However, research on the influence of BFP on repetitive online purchases remains scarce although scholars have long argued that personality traits are indeed an important determinant of the intention to make a future online purchase (Bosnjak et al., 2007). Hence, in order to advance literature on e-commerce, this research aims to delineate the effects of personality on (repetitive) online shopping whilst controlling for demographic factors such as gender, age, academic score, study field, university, economic status, and computer literacy.

## **HYPOTHESES**

### **Openness**

Openness refers to a set of traits related to creativity, curiosity, and imagination (Turkeyilmaz et al., 2015). Individuals strong in this personality trait like to seek new ideas and implement novel approaches. This trait contrasts with conventionality, which involves a preference for familiarity and routine (Leong et al., 2017).

In the context of e-commerce, people who are ready to accept new technologies would more likely to shop online (Agarwal and Prasad, 1998). Also, online stores often provide customers with more varieties and choices of products or brands than the limited selection displayed at physical stores (Dabholkar, 2006). Thus, buyers with an open personality will actively purchase online in order to fulfil their desire for new things such as the latest interesting offers on the internet (Tsao and Chang, 2010).

Hypothesis 1: Openness is positively related to the frequency of online purchases.

### **Conscientiousness**

Conscientiousness is generally characterized by an emphasis on achievement, competence, hard work, responsibility, self-dependence, and a strong will (Tsao and Chang, 2010; Turkeyilmaz et al., 2015). People with this personality tend to be more risk averse and appreciate long-term relationships (Leong et al., 2017). Because e-commerce is a new means for shopping, it may be less preferable for conscientious customers who are looking for familiarity in buying products at physical stores. Also, the insecure and risky nature of online platforms explains the reluctance of conscientious customers to buy online (Tsao and Chang, 2010).

Hypothesis 2: Conscientiousness is negatively related to the frequency of online purchases.

### **Extraversion**

In contrast to introversion, extraversion is associated with traits such as active, assertive, cheerful, energetic, outgoing, sociable, and talkative (Turkeyilmaz et al., 2015). Extraverts are often dominant and actively seeking excitement (Tsao and Chang, 2010). As a result, some reasons have emerged to expect extraverts to make online purchases more often than introverted individuals. First, extraverted customers are likely to embrace a new digital platform for shopping due to their strong receptivity

to novel ideas and experiences (Tsao and Chang, 2010). This idea is backed by Saleem et al. (2011), who found a positive relationship between extraversion and the propensity toward using a computer. Second, the unique experience of online shopping compared to traditional purchases at stores, including factors such as unlimited choices and greater discount, makes it a preferable channel for extraverted people who consistently seek to maximize pleasure (Tsao and Chang, 2010). Lastly, since e-commerce has become a global shopping trend, extraverts are more likely to adopt it as a symbol of social recognition, power, and status, compatible with their personality (Leong et al., 2017).

Hypothesis 3: Extraversion is positively related to the frequency of online purchase.

### **Agreeableness**

Individuals high in the personality trait of agreeableness tend to exhibit altruistic, caring, courteous, forgiving, kind, respectful, and sympathetic behaviors (Saleem et al., 2011; Tsao and Chang, 2010; Turkyilmaz et al., 2015). Thus, agreeable consumers are likely to be easily influenced by persuasive ads at online stores with exciting audio and visual components, as well as to enjoy the virtual interactions with fellow online buyers and sellers (Karl et al., 2007). Because online promotions are often more aggressive and more frequently updated than physical stores, customers with a highly agreeable personality are expected to buy via the internet more frequently.

Hypothesis 4: Agreeableness is positively related to the frequency of online purchases.

### **Neuroticism**

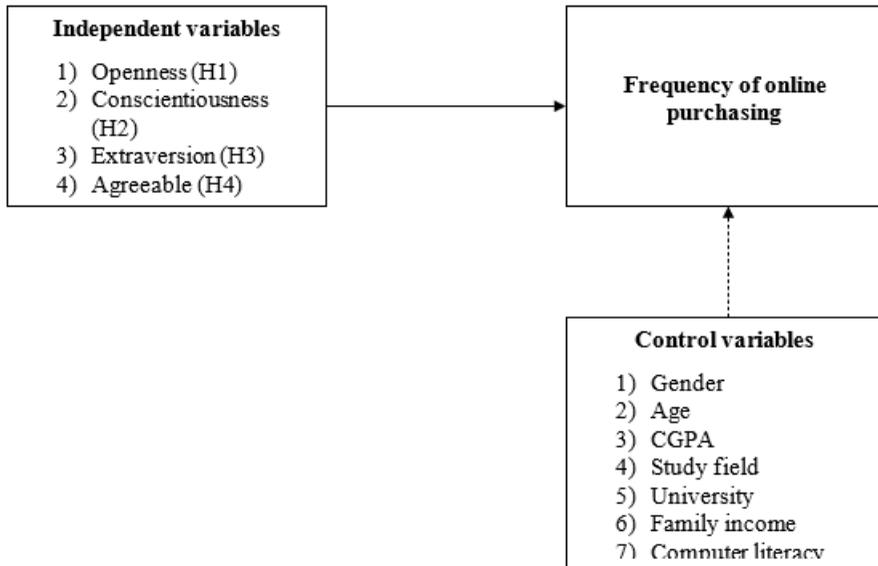
Neuroticism refers to poor emotional adjustment or emotional instability (Tsao and Chang, 2010). People with this personality trait possess characteristics such as anxiousness, fearfulness, depression, and sadness (Turkyilmaz et al., 2015). Socially, more neurotic people tend to prefer to be isolated or unsociable. Hence, they are reluctant to be in a situation that requires them to take control or be in charge (Judge et al., 1997; Leong et al., 2017).

Applying this understanding to the choice of shopping mode, we expect that neurotic individuals prefer to engage in online shopping as way to avoid the attention of other people (Tsao and Chang, 2010). Instead of physically going out and purchase things from the store, neurotic buyers can hide behind their screens and do their shopping virtually. Therefore, they can avoid engaging in direct social interactions with other people since neuroticism involves a lack of social motivation (To et al., 2007).

Hypothesis 5: Neuroticism is positively related to the frequency of online purchases.

The model used in this research is shown in Figure 1.

Figure 1. The framework of study



## DATA

This research utilizes data from the Student Behavior Survey (SBS) 2019/2020, which is intended to serve as a nationally representative sample of Malaysian university students. SBS data is the most recent and comprehensive dataset providing information on many aspects of student behavior. The SBS was carried out nationwide among university students at different levels (undergraduate and postgraduate), in both public and private institutions across study fields. The SBS also collected information on personal demographics and family backgrounds. The SBS yielded responses from 466 students. However, only 386 responses were complete and useful for the analysis.

Table 1 shows the descriptive analysis of respondents in the SBS. Eighty percent of respondents were female, and respondents averaged 21 years of age. Almost 90 percent of respondents attended public universities, and more than 60 percent studied the sciences. The average academic performance, or cumulative grade point average (CGPA), was rather high at 3.35/4.00. Lastly, 60 percent of the respondents came from low-income families, 30 percent from middle-income families, and the rest from high-income families.

Table 1. Descriptive analysis of SBS respondents

Variable	Description	Measurement
<i>Independent variables</i>		“Please rate each statement that according to how well it describes you” 1 = Strongly Disagree to 5 = Strongly Agree
Openness		I am curious about many different things I am an ingenious and deep thinker
Conscientiousness		I am a reliable person I do things efficiently I make plan and follow through with them
Extraversion		I am talkative I am full of energy I am outgoing and sociable
Agreeable		I am considerate and kind to almost everyone I am helpful and unselfish with others I am generally trusting
Neuroticism		I am depressed I can be moody I get nervous easily
<i>Controls</i>		
Gender	79.8% = Female 20.2% = Male	0 = Female, 1 = Male
Age	Mean = 21.6 years old	Continuous
CGPA	Mean = 3.35 / 4.00	Continuous, between 0.00 to 4.00
Field	61.1% = Social Science 38.9% = Science	0 = Social Science, 1 = Science
University	11.9% = Private 88.1% = Public	0 = Private, 1 = Public
Family Income	60% = Low 27% = Middle 13% = High	Dummy, middle income as a reference group
Computer Literacy	Mean = 1.88	“How good are you in using a computer and navigating its content?” 1 = Not Good at All to 5 = Extremely Good.

## VARIABLES

The dependent variable is captured from a single question, “How often do you use the internet for purchasing goods/services,” measured on a five-point Likert scale ranging from 1 (Never) to 5 (Always). Similarly, explanatory variables are also measured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) for the statements adopted from the Big Five Personality Inventory by John and Srivastava (1999), also shown in Table 1.

Lastly, we included both demographics and additional characteristics of the individuals as controls: gender, age, CGPA, study field, institution, family income group, and level of computer literacy.

## RESULTS

Prior to the model estimation, we tested for non-response bias by comparing both characteristics and findings between early (received within one month) and late (received after one month) responses. Based on testing of the group means, there is no significant difference between the two groups. Next, we checked for common method bias through Harman’s one-factor test. Since there is no single factor accounting for most of the covariance in the independent and dependent variables, we are confident that the dataset does not possess this problem (Podsakoff et al., 2003). The bivariate correlations between all variables are shown in Table 2.

Table 2. Correlational table

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Gender	1.000													
2	Age	0.079	1.000												
3	CGPA	0.047	-0.201	1.000											
4	Field	0.128	-0.197	-0.073	1.000										
5	University	-0.173	-0.077	-0.170	0.064	1.000									
6	Low income	-0.085	-0.088	-0.005	-0.167	-0.042	1.000								
7	High income	0.066	0.026	-0.124	0.121	0.051	-0.479	1.000							
8	Computer literacy	-0.101	-0.136	-0.063	-0.027	0.077	0.118	-0.110	1.000						
9	Online purchase	-0.020	0.009	0.008	-0.063	0.093	0.151	-0.154	0.337	1.000					
10	Openness	0.018	0.116	0.006	0.037	0.085	-0.048	0.068	-0.074	-0.169	1.000				
11	Conscientiousness	-0.005	0.040	0.061	-0.049	0.006	-0.124	-0.093	-0.126	-0.033	-	1.000			
12	Extraversion	-0.009	0.035	-0.078	-0.161	0.055	0.123	-0.017	0.038	-0.011	-	-	1.000		
13	Agreeable	0.029	-0.069	-0.101	-0.044	0.179	0.099	-0.063	0.018	0.065	-	-	-	1.000	
14	Neuroticism	-0.051	-0.197	-0.039	0.057	0.039	0.036	0.062	-0.033	-0.109	-	-	-	-	1.000

This study employed Structural Equation Modelling (SEM) to test the hypotheses on the relationships between the personality traits and the frequency of online purchases. SEM provides a conceptually engaging way to precisely test a theory regarding relationships among variables and latent constructs (Hair et al., 2018).

### Assessment of Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a procedure used to validate all latent variables in the model. There are two methods for executing CFA: individual-CFA and pooled-CFA. We opted to deploy the latter because it is more efficient, more accurate, and able to monitor one set of fitness indexes for all constructs in the model. Also, by using this method, all constructs are pooled and linked using double-headed arrows to assess the correlations among the constructs. The results from the CFA model for six latent variables (five independent variables and one dependent variable) range from 0.740 to 0.920. The model also shows that the correlation coefficients among the constructs range between 0.060 and 0.580, thus suggesting no multicollinearity exists among the variables.

### Assessment of the Measurement Model

The first step of SEM is to test the measurement model. The results obtained from the pooled-CFA process were assessed to form the measurement model. The fit index values are Relative Chi-Square=1.986, RMSEA=0.051, CFI=0.975, TLI=0.969, and PGFI=0.658 (the full definition of

theses abbreviations is supplied in Tables 3, 6, and 9). Therefore, our model is acceptable following the recommendation of Hair et al. (2018) that three out of four of the goodness-of-fit results must meet the requirement. The summary of model fit for the measurement model is shown in Table 3.

**Table 3. Analysis for measurement model**

Fit Indices	AFI		IFI		PFI
	Relative Chi Square (<5)	RMSEA (<=0.080)	CFI (>=0.900)	TLI (>=0.900)	PGFI (>=0.500)
	1.986	0.051	0.975	0.969	0.658

Notes: AFI-Absolute fit indices, IFI-Incremental fit indices, PFI-Parsimonious fit indices RMSEA- Root mean square error of approximation, CFI-Comparative fit index, TLI-Tucker-Lewis index, PGFI-parsimonious goodness of fit index

In the measurement model, we also tested Convergent Validity (CV), Discriminant Validity (DV) and Composite Reliability (CR). CV refers to a set of variables or items that are assumed to measure a construct and to share a high proportion of common variance (Hair et al., 2018). It is tested by using factor loadings and Average Variance Extracted (AVE). Both factor loadings and AVE should measure a minimum of 0.500, which indicates high CV (Hair et al., 2018). CR refers to the degree to which an instrument is measured according to the dimensions of the constructs (Hair et al., 2018). The acceptable cut-off point for CR is between 0.600 and 0.700 (Hair et al., 2018). The results are presented in Table 4.

**Table 4. Analysis for convergent validity and composite reliability**

Constructs	Items	Factor loadings (>0.50)	AVE (>0.500)	CR (0.600-0.700)
Openness (O)	O1	0.811	0.718	0.884
	O2	0.804		
	O3	0.922		
Conscientiousness (C)	C1	0.889	0.757	0.903
	C2	0.922		
	C3	0.795		
Extraversion (E)	E1	0.910	0.762	0.906
	E2	0.863		
	E3	0.892		
Agreeableness (A)	A1	0.872	0.697	0.873
	A2	0.814		
	A3	0.817		
Neuroticism (N)	N1	0.845	0.663	0.855
	N2	0.856		
	N3	0.737		
Frequency of online purchase (FOP)	OP1	0.870	0.789	0.918
	OP2	0.908		
	OP3	0.886		

Discriminant validity refers to “the extent to which a construct is truly distinct from other constructs” (Hair et al., 2018). It also means that factors or items only measure one latent construct. The cut-off point for the AVE is greater than 0.500. The point of the DV of the constructs is to explain whether the items are redundant. Furthermore, as shown in Table 5, by comparing the  $r^2$  values (correlation between tested paths) with the AVE value, findings showed that the  $r^2$  of all variables’ values are less than the AVE. Consequently, this indicates that each construct is distinct.

**Table 5. Analysis for discriminant validity**

Tested path	r	$r^2$	AVE <sub>1</sub>	AVE <sub>2</sub>	Result
A <--> N	0.438	0.192	0.697	0.663	Valid
A <--> E	0.362	0.131	0.697	0.762	Valid
A <--> O	0.141	0.020	0.697	0.718	Valid
A <--> C	0.121	0.015	0.697	0.757	Valid
A <--> OP	0.578	0.334	0.697	0.789	Valid
N <--> E	0.344	0.118	0.663	0.762	Valid
N <--> O	0.019	0.000	0.663	0.718	Valid
N <--> C	0.140	0.020	0.663	0.757	Valid
N <--> OP	0.711	0.506	0.663	0.789	Valid
E <--> O	0.750	0.563	0.762	0.718	Valid
E <--> C	0.559	0.312	0.762	0.757	Valid
E <--> OP	0.445	0.198	0.762	0.789	Valid
O <--> C	0.162	0.026	0.718	0.757	Valid
O <--> OP	0.058	0.003	0.718	0.789	Valid
C <--> OP	0.181	0.033	0.757	0.789	Valid

### Assessment of the Structural Model

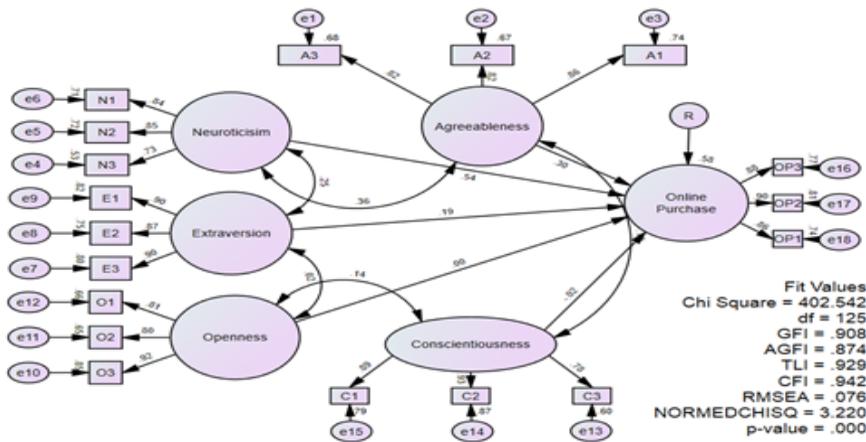
The second step in SEM is to test the structural model by examining the hypothesized relationships among latent variables. The structural model denotes one endogenous relationship linking the hypothesized model’s variables. In this study, the focus of the structural model is to examine and test the interrelationship between exogenous (Big Five Personality) and endogenous (frequency of online purchase) variables. The present study adopted the Total Disaggregation Structural Model, involving only latent variables. A total of five hypotheses were tested. The fit indices values are Relative Chi-Square=3.220, RMSEA=0.076, CFI=0.942, TLI=0.929, and PGFI=0.664. Therefore, the structural model is declared to be a good fit. The summary of the model fit for the structural model is shown in Table 6 and illustrated in Figure 2.

Table 6. Analysis for structural model

	AFI		IFI		PFI
Fit Indices	Relative Chi Square (<5)	RMSEA (<=0.080)	CFI (>=0.900)	TLI (>=0.900)	PGFI (>=0.500)
	3.220	0.076	0.942	0.929	0.664

Notes: AFI-Absolute fit indices, IFI-Incremental fit indices, PFI-Parsimonious fit indices RMSEA- Root mean square error of approximation, CFI-Comparative fit index, TLI-Tucker-Lewis index, PGFI-parsimonious goodness of fit index

Figure 2. The path diagram of structural model



The aim of testing the structural model is to examine the interrelationship between exogenous (openness, conscientiousness, extraversion, agreeableness, and neuroticism) and endogenous (frequency of online purchase, FOP) variables. The results are presented in Table 7, which shows mixed results. The relationship between extraversion and FOP is positively correlated,  $\beta=0.186$ ,  $p=0.000$ . Also, there is a significant relationship between agreeableness and FOP,  $\beta=0.297$ ,  $p=0.000$ . Similarly, neuroticism and OP also statistically related with  $\beta=0.541$ ,  $p=0.000$ . However, the relationships between openness and FOP, and conscientiousness and FOP are insignificant,  $\beta=0.000$ ,  $p=0.993$ , and  $\beta=-0.020$ ,  $p=0.629$ , respectively.

Table 7. Result of hypotheses testing

Hypotheses	Causal path			$\beta$	Estimate	S.E.	C.R.	p
H <sub>1</sub>	Openness	→	OP	0.000	0.000	0.039	0.009	0.993
H <sub>2</sub>	Conscientiousness	→	OP	-0.020	-0.160	0.033	-0.483	0.629
H <sub>3</sub>	Extraversion	→	OP	0.186	0.145	0.033	4.349	0.000
H <sub>4</sub>	Agreeableness	→	OP	0.297	0.375	0.060	6.216	0.000
H <sub>5</sub>	Neuroticism	→	OP	0.541	0.554	0.058	9.589	0.000

## Control variables

To ensure the model we developed is stable and fits the data, we tested the control variables — namely, gender, field, age, CGPA, university, family income, and computer literacy. These variables were checked to determine whether or not they can statistically confound the effect of independent variables on the model. However, the results presented in Table 8 show that all control variables were not significant in explaining the frequency of online purchase (except CGPA, which is significant at  $p < 0.100$ ).

Although the control variables reported are insignificant, there is a slight change in the model's goodness of fit, as shown in Table 9.

**Table 8. Result with control variables**

Variable	Causal path		$\beta$	Estimate	S.E.	C.R.	p
Openness	→	OP	0.003	0.003	0.041	0.073	0.942
Conscientiousness	→	OP	-0.011	-0.009	0.041	-0.214	0.830
Extraversion	→	OP	0.162	0.132	0.045	2.934	0.003
Agreeableness	→	OP	0.306	0.406	0.067	6.039	0.000
Neuroticism	→	OP	0.533	0.555	0.057	9.733	0.000
Gender	→	OP	-0.044	-0.096	0.083	-1.159	0.246
Field	→	OP	0.011	0.019	0.070	0.277	0.782
Age	→	OP	0.040	0.022	0.022	1.001	0.317
CGPA	→	OP	-0.066	-0.180	0.109	-1.653	$\gamma$
University	→	OP	0.004	0.011	0.103	0.102	0.918
Low Income	→	OP	0.018	0.032	0.077	0.414	0.679
High Income	→	OP	-0.020	-0.049	0.109	-0.455	0.649
Computer literacy	→	OP	-0.036	-0.048	0.050	-0.944	0.345

**Table 9. Modification of structural model after including the control variables**

Fit Indices	AFI		IFI		PFI
	Relative Chi Square (<5)	RMSEA (<=0.080)	CFI (>=0.900)	TLI (>=0.900)	PGFI (>=0.500)
	1.565	0.038	0.976	0.963	0.578

Notes: AFI-Absolute fit indices, IFI-Incremental fit indices, PFI-Parsimonious fit indices RMSEA- Root mean square error of approximation, CFI-Comparative fit index, TLI-Tucker-Lewis index, PGFI-parsimonious goodness of fit index

## DISCUSSION AND →

Due to acknowledging the benefits of e-commerce, all parties including the government, sellers, and buyers are willingly embracing the emergence of this trend. However, in the case of companies, in order to sustain business growth via the online platform, their strategies should be twofold: attracting new customers whilst at the same time ensuring existing purchasers will continuously buy products through the internet.

To further understand what drives individuals to engage in online shopping often, this research examined the effects of personality traits on repetitive online purchase, as measured by the frequency of online shopping, among a specific customer group of university students. Drawing on BFP, we developed hypotheses and tested them through SEM using the SBS data of 386 students in Malaysia.

However, the empirical model supported only three of the five hypotheses proposed. The results showed that extraversion, agreeableness, and neuroticism were positively related to the frequency of online purchases, whereas openness, and conscientiousness showed no significant effect. Certainly, the findings verified prior studies' findings that individuals with personality traits of excitement-seeking (Tsao and Change, 2020), respectfulness (Saleem et al., 2011), and unsociability (Turkyilmaz et al., 2015), are interested in using digital platforms and are eager to do so more frequently. In other words, online shopping is proven to be a means that provides a pleasurable shopping experience for extraverts, persuasive marketing strategies for agreeable people, and the privacy preferred by neurotic buyers.

On the other hand, openness and conscientiousness were found not to explain the frequency of online shopping. There are a few possible reasons for this. Firstly, people high in openness tend to be highly curious and imaginative. Therefore, they might be less likely to stick to the same channel (i.e., online or physical store) for shopping. Rather, these buyers might be more likely to make purchases via both means interchangeably, depending on impulse, offers, or other factors. Second, although we expected reluctance among conscientious people to engage in online shopping, some of them might be interested because internet shopping is more convenient in terms of effort and time, which is suited to a personality that appreciates efficiency (Huang and Yang, 2010). In short, we cannot predict the propensity for engaging in online shopping based on individuals' personality traits of openness and conscientiousness.

Overall, this study contributes to advancing literature on online marketing by examining the effect of personality on repetitive online purchase, thus responding to the call for research focusing on repeat as opposed to new online customers (Kim and Gupta, 2009). Building on the conventional Big Five personality traits, our research sheds light on an important yet relatively neglected market segment: repetitive online customers. Therefore, we theoretically and empirically bridge the traditional understanding of personality traits with the new perspective in marketing literature. Indeed, repeat buyers are currently perceived as a preferable market segment that should receive high priority and customized marketing strategies (Ryu and Han, 2011).

This research also offers practical managerial implications. Most importantly, it suggests that marketers should customize ads and specifically target customers with certain personality traits — extraversion, agreeableness, and neuroticism — because they are likely to use online platforms more often for buying items. From the controlled variables, we would suggest that the interest in internet shopping is not correlated with gender, age, economic status, or even computer literacy. This a strong signal to both policy makers and businesses that e-commerce, especially in Malaysia, is likely to further grow in the future. Hence, all parties should grab this opportunity and earn the vast benefits.

## **LIMITATION AND FUTURE RESEARCH**

Despite its contributions, this research is not without caveats. Mostly importantly, we did not comprehensively control for all possible confounding variables. First, we acknowledged but did not control the supply-side factors in our model such as perceived security (Alharbi et al., 2013) and ease of use of the websites (Xia et al., 2018). Second, we did not consider the socio-psychological factors, especially social influence of close circles such as the families and friends which is deemed critical in theory of social learning. Lastly, since the research was conducted in a single country, our analyses could not insert country-level variables in the model such as digital infrastructure or digital regulations in the country (Oxley and Yeung, 2001).

For future research, we hope that these limitations could be rectified particularly on the theoretical aspect by modelling a complete set of online shopping predictors through integrated psychosocial-

technology theories. Together, the methodological aspects could also be improved by employing a robust quantitative approach across countries.

### **FUNDING AGENCY**

Publisher has waived the Open Access publishing fee.

## REFERENCES

- Agarwal, R., & Prasad, J. (1998). A conceptual and operational definition of personal innovativeness in the domain of information technology. *Information Systems Research*, 9(2), 204–215. doi:10.1287/isre.9.2.204
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. doi:10.1016/0749-5978(91)90020-T
- Alharbi, I., Zyngier, S., & Hodkinson, C. (2013). ‘Privacy by design and customers’ perceived privacy and security concerns in the success of e-commerce’. *Journal of Enterprise Information Management*, 26(6), 702–718. doi:10.1108/JEIM-07-2013-0039
- Ariely, D., & Carmon, Z. (2000). Gestalt characteristics of experiences: The defining features of summarized events. *Journal of Behavioral Decision Making*, 13(2), 191–201. doi:10.1002/(SICI)1099-0771(200004/06)13:2<191::AID-BDM330>3.0.CO;2-A
- Ayob, A. H., & Makhbul, Z. K. M. (2020). The effect of personality traits on collaborative consumption participation. *Geografia : Malaysian Journal of Society and Space*, 16(2), 205–214. doi:10.17576/geo-2020-1602-16
- Badgaiyan, A. J., & Verma, A. (2014). Intrinsic factors affecting impulsive buying behaviour-evidence from India. *Journal of Retailing and Consumer Services*, 21(4), 537–549. doi:10.1016/j.jretconser.2014.04.003
- Bosnjak, M., Galesic, M., & Tuten, T. (2007). Personality determinants of online shopping: Explaining online purchase intentions using a hierarchical approach. *Journal of Business Research*, 60(6), 597–605. doi:10.1016/j.jbusres.2006.06.008
- Brusch, I., & Rappel, N. (2020). Exploring the acceptance of instant shopping—An empirical analysis of the determinants of user intention. *Journal of Retailing and Consumer Services*, 54, 101936. doi:10.1016/j.jretconser.2019.101936
- Chiu, C. M., Wang, E. T., Fang, Y. H., & Huang, H. Y. (2014). ‘Understanding customers’ repeat purchase intentions in B2C e-commerce: The roles of utilitarian value, hedonic value and perceived risk’. *Information Systems Journal*, 24(1), 85–114. doi:10.1111/j.1365-2575.2012.00407.x
- Dabholkar, P. (2006). Factors influencing consumer choice of a “Rating Web Site”: An experimental investigation of an online interactive decision aid. *Journal of Marketing Theory and Practice*, 14(4), 259–273. doi:10.2753/JMTP1069-6679140401
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *Management Information Systems Quarterly*, 13(3), 319–340. doi:10.2307/249008
- Dobre, C., & Milovan-Ciuta, A. M. (2015). Personality influences on online stores customers behavior. *Ecoforum Journal*, 4(1), 69–76.
- Dutta, A. (1997). The physical infrastructure for electronic commerce in developing nations: Historical trends and the impact of privatization. *International Journal of Electronic Commerce*, 2(1), 61–83. doi:10.1080/10864415.1997.11518304
- Gohary, A., & Hanzae, K. H. (2014). Personality traits as predictors of shopping motivations and behaviors: A canonical correlation analysis. *The Arab Economics and Business Journal*, 9(2), 166–174. doi:10.1016/j.aebj.2014.10.001
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis* (8th ed.). Cengage Learning, EMEA.
- Hsu, M. H., Chang, C. M., & Chuang, L. W. (2015). Understanding the determinants of online repeat purchase intention and moderating role of habit: The case of online group-buying in Taiwan. *International Journal of Information Management*, 35(1), 45–56. doi:10.1016/j.ijinfomgt.2014.09.002
- Hu, Y., Sun, X., Zhang, J., Zhang, X., Luo, F., & Huang, L. (2009). A university student behavioral intention model of online shopping. *2009 International Conference on Information Management, Innovation Management and Industrial Engineering*, 1, 625–628. doi:10.1109/ICIII.2009.156

- Huang, J. H., & Yang, Y. C. (2010). The relationship between personality traits and online shopping motivations. *Social Behavior and Personality*, 38(5), 673–679. doi:10.2224/sbp.2010.38.5.673
- John, O. P., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of Personality: Theory and Research* (pp. 102–138). Guilford Press.
- Karl, K., Peluchette, J., & Hall, L. (2007). Give them something to smile about: A marketing-oriented approach to volunteer recruitment and retention. *Proceedings of the Association of Collegiate Marketing Educators*, 222-254.
- Kim, H. W., & Gupta, S. (2009). A comparison of purchase decision calculus between potential and repeat customers of an online store. *Decision Support Systems*, 47(4), 477–487. doi:10.1016/j.dss.2009.04.014
- Lee, Y., Kozar, K. A., & Larsen, K. R. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for Information Systems*, 12(50), 752–780. doi:10.17705/1CAIS.01250
- Leong, L. Y., Jaafar, N. I., & Sulaiman, A. (2017). Understanding impulse purchase in Facebook commerce: Does Big Five matter? *Internet Research*, 27(4), 786–818. doi:10.1108/IntR-04-2016-0107
- McCrae, R. R., & Costa, P. T. (1990). *Personality in Adulthood*. Guildford Press.
- Oxley, J. E., & Yeung, B. (2001). E-commerce readiness: Institutional environment and international competitiveness. *Journal of International Business Studies*, 32(4), 705–723. doi:10.1057/palgrave.jibs.8490991
- Piron, F. (1991). Defining impulse purchasing. *Advances in Consumer Research*. Association for Consumer Research (U. S.), 18, 509–514.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879–903. doi:10.1037/0021-9010.88.5.879 PMID:14516251
- Ryu, K., & Han, H. (2011). New or repeat customers: How does physical environment influence their restaurant experience? *International Journal of Hospitality Management*, 30(3), 599–611. doi:10.1016/j.ijhm.2010.11.004
- Saleem, H., Beaudry, A., & Croteau, A. M. (2011). Antecedents of computer self-efficacy: A study of the role of personality and gender. *Computers in Human Behavior*, 27(5), 1922–1936. doi:10.1016/j.chb.2011.04.017
- Thompson, E. R., & Prendergast, G. P. (2015). The influence of trait affect and the five-factor personality model on impulse buying. *Personality and Individual Differences*, 76, 216–221. doi:10.1016/j.paid.2014.12.025
- To, P. L., Liao, C., & Lin, T. H. (2007). Shopping motivations on Internet: A study based on utilitarian and hedonic value. *Technovation*, 27(2), 774–787. doi:10.1016/j.technovation.2007.01.001
- Tsao, W. C., & Chang, H. R. (2010). Exploring the impact of personality traits on online shopping behavior. *African Journal of Business Management*, 4(9), 1800–1812.
- Turkylmaz, C. A., Erdem, S., & Uslu, A. (2015). The effects of personality traits and website quality on online impulse buying. *Procedia: Social and Behavioral Sciences*, 175, 98–105. doi:10.1016/j.sbspro.2015.01.1179
- Wen, C., Prybutok, V., & Xu, C. (2011). An integrated model for customer online repurchase intention. *Journal of Computer Information Systems*, 52(1), 14–23.
- Xia, M., Zhang, Y., & Zhang, C. (2018). A TAM-based approach to explore the effect of online experience on destination image: A smartphone user's perspective. *Journal of Destination Marketing & Management*, 8, 259–270. doi:10.1016/j.jdmm.2017.05.002

*Siti Daleela is a senior lecturer at Universiti Teknologi MARA. She earned her doctorate from The National University of Malaysia where she specialized in social entrepreneurship. Her research interests include social innovation, societal well-being, and sustainable entrepreneurship.*