



Examining the Factors Impacting Consumer Online Purchasing Behavior During COVID-19 in Klang Valley

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ABSTRACT

The initial appearance of Covid-19 has changed the lives of billions of people in the world and has disrupted consumers purchasing behavior whether online or offline shopping. The internet has given consumer empowerment where online shopping has been adopted by consumers globally. Customers can stay at home and shop with payment and get home delivery. This research aims to examine the factors impacting consumer online purchasing behavior in the retail business environment during Covid-19 in Klang Valley. This study focuses on five variables which are attitude, trustworthiness, security and safety, loyalty and marketing information and how these variables impact consumer online purchasing behavior during crisis period utilizing the Reasoned Action Approach Theory and Technology Acceptance Model Theory. The proposed research is designed based on quantitative model utilizing a questionnaire survey with a sample size of 405 online respondents. The result can provide knowledge about consumer online purchasing behavior and all five variables are supporting the research findings especially marketing information on the website topping the list of the variables. Managerial and theoretical implications are important for businesses to adopt online channels and expand globally using the available technology especially social media channels. The research presents several considerations towards consumer online purchasing behavior and future research should study other variables using different methodologies such as exploratory nature with interviews to understand the consumer behavior as consumer behave differently in different circumstances during pandemic.

Keywords: Consumer Online Purchasing, Attitude, Trustworthiness, Security, Loyalty, Marketing Information and Covid-19.

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INTRODUCTION

The presence of Covid-19 in 2020 has altered the lives of billions of people in the world and has disrupted how consumers purchasing behavior intention. Government around the world are taking strict precaution with movement restriction, quarantine, mandatory guideline of wearing mask and social distancing to curb the pandemic and the situation is similar in Malaysia with the Movement Control Order (MCO) whether Restricted or Conditional with closure of shops and service industries. The health care system has been loaded with patients and is a big risk for global human health with the world economic and social imbalanced in every country.

Consumer purchasing behavior is fundamentally different today especially during the current Covid-19 pandemic whether via online or offline shopping. Customers can stay at home and shop with payment via credit card or bank transfer and get home delivery. The rapid information technology development via e-commerce has changed the culture of consumer shopping. Low entry barrier has created easy competition for online businesses

(Wang et al, 2016). Businesses needs to adopt a digital transformation journey due to the pandemic and to transition from merely adapting and surviving, to thriving and winning.

This research paper is to examine the factors impacting consumer online purchasing behavior during the Covid-19 pandemic in the Klang Valley. The proposed framework for this research is to examine the key elements associated to the consumer online purchasing behavior and their consequences from the social psychology perspective.

RESEARCH BACKGROUND

Covid-19 has caused significant changes in society, from urban to rural communities, family and individual lifestyle. Each pandemic has effects on social human, health, financial security, quality of life and food hygiene and it will affect people from all walks of life as everyone is a consumer one way or another. Previously the diseases are spreading from animals to human, but this crisis is different as it is spreading from human to human

easily as people are more closely connected with each other resulting in the virus spreading faster around the world.

During crisis, uncontrollable reactions could occur to the consumers and businesses need to be prepared to manage and resolve crisis to sustain their business according to Mitroff and Apasian (2014). If the crisis is not handled properly it can create many negative consequences in the world and can affect any business irrespective of size of the organization and can cause huge losses, problematic operations and losing market share and even closing like what has happened to Robinson, MBO Cinema, Speedy Video, MPH Bookstore and Holiday Inn hotels and many more in Malaysia.

This pandemic has changed the e-commerce of the world and online shopping trend has increased tremendously in the last 15 months compared to the last two decades especially in Malaysia. Consumers' behavior has changed dramatically in the last 9 months of 2020 in Malaysia and globally with the rapid pace of technology advancement, social transformation and outstanding customer experience with convenience at the human-centered that provide consumers with a hassle-free experience like a one-stop center. The convenience and easiness of online shopping with the movement control order has spur the e-commerce industry especially buying grocery, food, health care and necessity items.

Malaysia economy has shrunk by 3.4% year on year in quarter 4, 2020 after a 2.6% contraction in quarter 3, 2020 which is showing the negative effect of the actions taken worldwide to control Covid-19. The trend analysis from the Department of Statistic Malaysia portal has indicated that Malaysia has 32.57 million population with 39.99 million mobile connection which is equivalent to 122.8% penetration. There are 27.43 million internet users in Malaysia as at Jan 2021 which is 84.2% penetration where 77.4% of Malaysia population are living in the urban centers while 22.6% lives in rural area.

The statistic also highlights that 70.6% spending more than 5 hours daily on internet usage as shown in the below graph.

Duration of daily use of Internet



Figure 1 Consumer Daily Internet Usage

As online shopping can be done locally or globally, there is a significant increase in e-commerce retails sales during Covid-19 and is expected to reach \$6.5 trillion by 2023 according to Jones (2020) where some product has higher impact, and some has less (Andrienko, 2020).

The research by Tan et al., (2020) highlight that two major concerns for online shopping are security and privacy of data in Malaysia where online payment gateway such as PayPal are used to accept website payment as a middleman to prevent merchants from getting consumers financial information while another research by Hashim et al., (2018) review that businesses and researchers including government can no longer afford to ignore online shopping especially for the younger generations and the research by Shanthi and Kannaiah (2015) indicate the lack of proper connectivity and exposure to online shopping in rural area and the lack of customer service for online shopping as another factor by Katawetawaraks and Wang (2011).

Another research by Kaur K., et al. (2020) on the effect of movement control order during Covid-19 in Malaysia indicated mass media and social media can impact the consumer behavior with the fear of missing out (FOMO) mentality. Research by Sheth, J. (2020) concluded that all consumption is time and location bound and consumers have learned to improvise in creative and innovative ways with newer technologies to modify existing habits.

Research Problem

With the current Covid-19 global pandemic, it is a VUCA environment as it is Volatile, Uncertain, Complex and Ambiguity. It is volatility as the speed of changes in an industry, market or world is moving too fast for business to adapt and change based on the technology changes. Brands which have been around for decade are having operational problems in adjusting to this new crisis. It is an uncertain world as nobody can predict how or where the future direction is moving. Complexity refers to the numerous factors that are interconnected in this current environment as there is economic, political, health and financial factors involved. As for ambiguity, it is a lack of clarity or insufficient information to form an opinion or conclusions about the disease as there are so many clusters of Covid-19 now.

Research Objective

The research objective is to understand how consumer are behaving after almost a year of uncertain health crisis, lock down and travel restriction. The dependent variable highlighted is consumer online purchasing behavior and how consumers are behaving in this pandemic of lockdown and restrictions and the impact on business environment.

The research objective of this study:

- 1) To investigate whether attitude, trustworthiness, security and safety, loyalty and marketing information and strategy affect the consumer online purchasing behavior.
- 2) To determine the most important factor that influence consumer online purchasing behavior.

The research scope will look at 5 factors affecting the consumer online purchasing behavior.



Figure 2 – Research Framework

Research Questions

The research questions are based on research objectives and to examine the factors impacting consumer online purchasing behavior during Covid-19 in Klang Valley according to the variables as below:

- 1) What is the impact of attitudes, trustworthiness, security and safety, loyalty and marketing information portal towards online purchasing behavior?
- 2) What is the most important factor of e-commerce that can impact consumer purchasing behavior during Covid-19 in Klang Valley?

LITERATURE REVIEW

One of the underpinning theory adapted in this research study is The Reasoned Action Approach Theory (RAA) where Fishbein & Ajzen, (2010) has divided into 2 sub-components, where attitude towards behavior entail of experiential and instrumental attitudes, perceived norm consists of descriptive and injunctive norm and perceived behavior control has capacity and autonomy with the intention leading to the consumer behavior as highlighted in below figure.

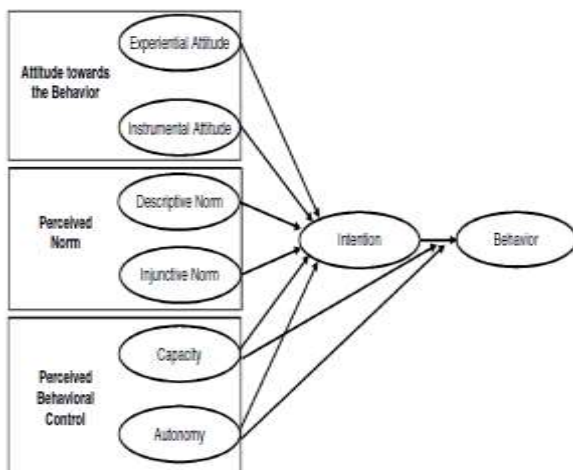


Figure 3 - The Reasoned Action Approach Theory

Another theory adapted is the Technology Acceptance Models (TAM) developed by Davis (1986). It is the prediction of the acceptability of technology by online users. There are two factors

involved which is the perceived usefulness and ease of use of the technology (Hauser and Shugan, 1980). Behavioral intention is a factor that leads people to use the technology as shown in the below figure.

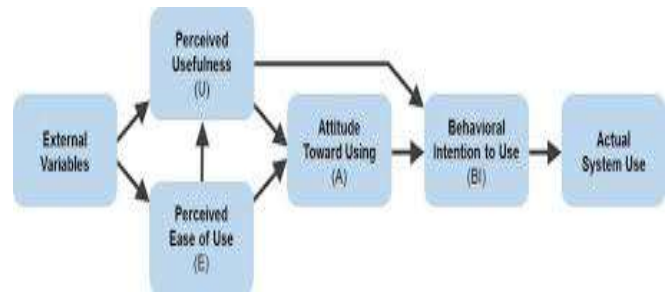


Figure 4 - Technology Acceptance Models (TAM)

Consumer Online Purchasing Behavior

The consumer is an individual who pays money for the products which is the demand and without consumer demand, supplier would not have the motivation to produce the products or services to sell to consumers online. Some of categories of customers such as essential-based customers, loyal customers, value seeker customers, impulsive customers, potential and new customers.

Online purchase intention is defined by the consumer buying stages for a product or service from a known website. Wolfinbarger and Gilly (2001) highlight that purchasing on the internet is not shopping but simply as making a purchase. E-Commerce business is conducted in the online environment and internet is the integrated platform that connects purchasers and retailers (Turban et al., 2015). Ullman (2013) highlighted that e-commerce is the online business, where there is income generated from the websites. Chaffey (2015) defines e-commerce economic activities as social events between participants where internet and devices are used.

The benefits of online shopping for consumers are wide range of products and services, convenience and availability of information including risk perception by consumers that will affect their purchasing decision and impact online shopping as indicated by Bacik et al., (2014) and Wang and Chou (2014).

Consumer online behavior intention during crisis period can be caused by panic buying and herd mentality behaviors (Yuen et al., 2020). This can also be seen in Malaysia at the start of the crisis in March 2020 when Malaysian bought huge number of foods and empty some of the hypermarket and supermarket shelves. This is also applicable currently as health necessity products like masks or gloves are more important than clothing or other appliances.

Attitude

Consumer attitude is the activity of individual and groups that is related with the purchase and usage of products and services and how the consumer's attitude, sentiments and choice affect purchasing behavior like product specific behaviors (like drinking Coca cola over Pepsi) to more general consumption related behavior (fizzy drinks over water).

Consumer attitude is a direct factor that affects the purchasing motivation according to Jun, G., and Jaafar, N., (2011) and brand reputation and marketing mix will affect online shopping attitude. A research by Madichie (2012) featured the concept and theories of attitude and the models used including the factors affecting attitude and consumer mindset that create lasting evaluation of people or issues. Weerarathna et al., (2020) highlight that knowledge positively affect online shopping behavior as consumers with more knowledge about the technology will be able to avoid security matters and the advantages it gives can influence the consumer attitude on the website.

Trustworthiness

Trust is a consumer's willingness to depend on the retailer to act and Kim et al., (2008) define trust as each party will behave in a responsible way in the relationship and has been recognized as a feature that affect attitude and lack of trust can create negative impact on online purchasing.

The research by Arif, (2012) highlights that basic website information is a criterion to evaluate trust for online shopping and unclear message or overloaded products and services with no guarantees or contact information on the website will lose trust quickly. A research by Mahliza (2020) highlight that trust is an important factor in e-commerce industry as consumers will not purchase if they do not trust the seller as they are not able to verify the product directly (Dachyar & Banjarnahor, 2017) where consumer reviews and ratings have significantly influenced the trust of the website. Sellers needs to build trust with the consumers as it is related to their buying decision (Putra et al., 2017) and the higher the trust level, the more they will purchase from the sellers (Tanjung et al., 2018).

Security and Safety

The perception of online transaction security is a major concern among consumers where payment methods including privacy of financial information like personal details are access unlawfully and will reduce the intention to purchase online. Online security can create a situation that can affect economic misery to data or resources where security of data and information is important for online transactions especially online payment based on the research by Khan et al., (2017). The convenience of online shopping comes with security threats such as identity theft and fraud and Kim (2012) argue that internet shopping is characterized by uncertainty and risk for customers because e-shops are processing increasing amount of information and data about their customers and security is more important than ever.

A study by Wong and Mo (2019) provides insight that mobile payment can be used for vendor machines like buying drinks, points of sales (POS) such as Apple Pay, Samsung Pay and Alipay and it was highlighted that perceived security will affect mobile payment if there is no confidence in online business. Imudeen (2018) highlighted the same sentiments that consumer perceived security threats in online shopping is a major aspect that affect consumer's purchasing behavior.

Loyalty

Customer loyalty is a transaction with a brand or buying a specific product on an ongoing basis. Online loyalty is defined as the possibility that a customer will purchase on a regular basis from the same site because of customer's positive experience

and satisfaction after conducting a business transaction with a retailer and the value received from the products or services as highlighted. When loyal customers buy continuously, the customer will promote the products and services to their friends and family and share positive reviews and purchase experiences and create potential word-of-mouth advertising according to Yeoh et al., (2015). E-loyalty and e-satisfaction are influenced by technology acceptance.

Creating customer loyalty is important for all online or offline industry. Brand loyalty is not easily influenced if customers are willing to pay more for the product. It is important to highlight that loyal customers have the capability to increase sales quicker than marketing and sales combined and loyal customers generate higher revenue and profit for retailers (Shafiee and Bazrgan, 2018). As loyalty is the driving force and the continuation of relationship between consumer and retailers, it is important for retailers to have the emotional connection with the customers for repeated purchases.

A research by Pratminingsih et al., (2013) review customer loyalty has more favorable outcomes as it is more cost effective to keep existing customers (Armstrong and Kotler, 2010). Retaining customers is vital to retailers from a financial perspective compared to acquire new customers which is more expensive (Reichheld and Scheffer, 2000) and by retaining 5% of the customers, profits will increase by 25% to 95% and reduce marketing costs.

Marketing Information

Marketing information can be distributed to the consumers such as social networks, viral marketing, media advertising, internet and email marketing and affinity marketing. Internet marketing goals are achieved when digital technologies are used (Chaffey et al., 2015) by matching customer needs and business should merge online with offline to create more opportunities.

The research by Abdelwahab et al., (2015) indicated that E-commerce marketing is a new channel with minimum cost, interactive and has global access where new company or smaller ones have a chance to survive and challenge against the bigger and larger corporation across the geographical boundaries.

Another research by Kyriakopoulou & Kitsios (2017) indicated online advertisement and social media can affect consumers' behavior decision making and purchase intention with retailers having the opportunity to make conversation with customers to promote their products and brands.

Internet websites has no geographical limitation, and it is important to understand the behavior of the customer and provide as much information as possible through various marketing programs and channels to help the customers to make the right choice.

RESEARCH METHODOLOGY

According to Fisher (2007), the research topic has to be appealing and inspiring for the researcher and relevant at the point of time with consideration to get respondents and addressed the research problem. This research will be beneficial for marketing executives in the new norm method of marketing post Covid-19 via the online channels besides the off-line based

on the attitude, trust, security and safety factors, loyalty and the marketing information and strategy applied on the consumers behavior.

Methodology is the world view and is a theoretical or conceptual framework that explain the research results like research question or hypothesis through data collection, analysis and reporting and methods are tools used to collect and analyze the information needed to response to the research question or assess the theories such as statistical analysis, questionnaire survey, interview, focus group, modelling and others.

This research methodology is conducted in a logical flow progressing on a step by step as summarize below :

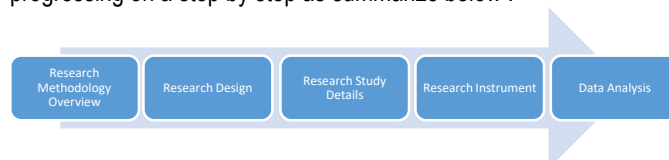


Figure 5 – Research Methodology Summary

Research Design

The research on consumer online purchasing behavior will be a theory testing and an analytical design for reviewing the relationship between variables which will be a statistical analysis using quantitative and deduction data collection method to confirm or reject the hypothesis.

According to Bryman and Bell (2007), quantitative approach is more suitable in exploring social facts which is utilizing a single source of data to categorize features and build statistical model to interpret the data-collection, which is measurable, objective and statistically valid.

Research Study Details

The research purpose is to understand consumer online purchasing behavior in the retail environment during Covid-19 in the Klang Valley after more than a year of uncertainty by using analytical technique and quantitative method. This research will be using non-experimental investigation as the subject cannot be randomly assigned to conditions and is about a causal relationship and the independent variables cannot be manipulated and broad scale. When it is reported accurately, it will make a tremendous contribution to a research and can be used to make recommendation for practice. However, the disadvantage is that the results cannot be obtained clear and error free and other ways must be used to draw conclusions such as correlation.

The time horizon is based on cross sectional as the data collection is at a specific point of time and is a short-term study for population-based surveys. The cross sectional is used due to resources constraints like time, funding, and sample size.

The study setting for target population will be consumers with internet access in the Klang Valley and the data collection will be in the retail industry. The study population are working consumers as it would give a better comparison between working in the office and working from home as they will need to purchase products or services online during the pandemic period.

The application approach to determine the sample size is using the G-Power and the criteria to determine the sample size of population are the level of precision, confidence level and degree of variability according to Israel (2012). The sample size is a subgroup of the overall population in Malaysia. According to Roscoe (1975), a suitable sample size above 30 and less than 500 is recommended but Malhotra and Peterson (2006) highlighted that a bigger sample size can provide accurate analysis.

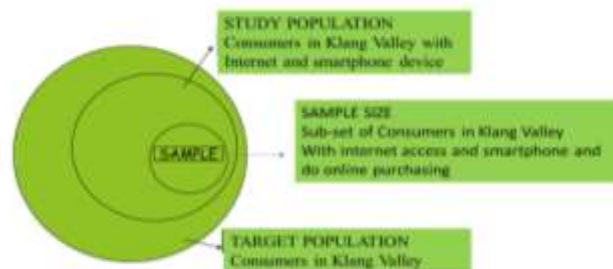


Figure 6 - Sample Population

Based on this research study, the sample size based on survey calculator is to obtain 384 respondents as shown in Table 1

Table 1 – Sample Population

Total Population in Klang Valley	8.2 million
Study Population in Klang Valley (consumers who has internet and smartphone device at 84% of total population)	6.8 million
Sample Size (based on sample calculator)	384

The sampling technique will be a non-probability sampling and is based on the subjective judgement and will be less stringent method where not every individual has the same chance of participating in the study and the sample technique will be using purposive sampling.

The advantages of purposive sampling or judgment sampling is cost and time effective sampling approaches. Purposive sampling is appropriate when the researcher relies on her own judgment in choosing the primary data source that can contribute to the study. However, there are also disadvantages where the data is subject to vulnerability errors based on the researcher judgment and high level of bias.

The research instrument to be used is questionnaire survey using google form. Online questionnaire survey is normally used as it is the easiest and simplest method of data collection since this is a non-probability sample research and is very relevant for this research since it is related to online shopping. There are 4 levels of measurement which is nominal, ordinal, interval and ratio and below is an example on the measurement level.

The measurement used in the questionnaire survey is nominal and ordinal for demographics data and the dependent variable (DV) and the independent variables (IVs) are using interval measurement for this research.

Table 2 – Measurement of Variables

Code	Variable	Level of Measurement
DMC	Demographics	Nominal and Ordinal
DV	Consumer Behavior	Interval
IV1	Intentions	
IV1	Attitude	Interval
IV2	Trustworthiness	Interval
IV3	Security/Safety	Interval
IV4	Loyalty	Interval
IV5	Marketing Information/Strategy	Interval

There are many advantages of online survey such as increased response rate, low cost, convenience, real time access on the response, flexibility design on the survey, no interview and no misinterpretation and the best part is anonymity from the respondents so they can indicate their true response. Bryman and Bell (2007) review that researchers should adhere to the Research Ethics Framework where research needs to be ethical with full disclosure with respondents on the nature of the research.

The design of the questionnaire is a key factor as it will impact the participation rate and the reliability and validity of the data collection. Most of the questions should be designed based on the literature reviews that is associated with the research framework of consumer online purchasing behaviors and the independent variables of attitude, trustworthiness, security and safety, loyalty and marketing information.

Research Findings and Analysis

Researcher will adopt descriptive analysis, reliability test and inferential analysis since the level of measurement is nominal, ordinal and interval. The data analysis can be in frequency, percentages, linear regression for the interval measurement and multi linear regression for the variables to investigate the research question and theoretical framework.

The objective of data analysis is to extract useful information from the research questionnaire survey and compare it to the literature reviews which is a secondary research using quantitative analysis. When this process is conducted, the data analysis will provide an informed decision making which will be effective and efficient for the business in understanding the customers.

Descriptive statistics is set of data to provide a general data trend like mean, median, variance, standard deviation, skewness, count of minimum and maximum and is used to summarize large pool of data into useful information for the business to make decisions while descriptive analysis is a process of transforming raw data into a form that is easy to understand and become useful insights. Good data will provide a good analysis that can tell a story. Data that are accurate, complete, relevant, and consistent is considered good data quality especially when it is valid and available on a timely basis.

This research questionnaire survey was distributed primarily through online channel with a URL link using social networks channels, Whatsapp, Facebook, Email and SMS. Online channels allow the flexibility and has the capability to distribute to

a wider market to complete the survey in a timely and simple manner.

Research Data Analysis

The survey was distributed on March 29 till April 26, 2021 and a total of 405 respondents were collected and there were no incomplete data as the survey is simple and easy to understand for the respondents and has fulfilled the minimum sample size requirements of 384 respondents.

Table 3 - Demographic Data Analysis

Gender	Male	168	41.5%
	Female	237	58.5%
Age	24 years old and below	41	10.1%
	25 – 34 years old	90	22.2%
	35 – 44 years old	110	27.2%
	45 – 54 years old	87	21.5%
	55 years old and above	77	19.0%
Marital Status	Married	235	58%
	Single	170	42%
Education Status	High School or lower	34	8.4%
	Diploma	47	11.6%
	Degree	243	60.0%
	Master	79	19.5%
	PhD	2	0.5%
Occupation	Student	39	9.6%
	Self-Employed	62	15.3%
	Employee	265	65.4%
	Housewife	9	2.2%
	Retired	30	7.4%
Monthly Income	RM3000 and below	96	23.7%
	RM3001 – RM6000		
	RM6001 – RM9000	99	24.4%
	RM9001 – RM12000		
	RM12001 and above	63	15.6%
Residents		50	12.3%
		97	24.0%
	Klang Valley	346	85.4%
	Non Klang Valley	59	14.6%

Cronbach Alpha is a measurement of internal consistency and will review if multiple questions on a Likert scale survey are reliable. As a rule of thumb for interpreting alpha, below is the scale where a score of more than 0.7 is usually acceptable and the higher the values, the better the consistency.

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Figure 7 – Cronbach's Alpha Scale

Table 4 – Cronbach Alpha on Variables

Variables	No of items	Cronbach Alpha
Attitude (IV1)	5	0.883
Trustworthiness (IV2)	5	0.873
Security and Safety (IV3)	5	0.877
Loyalty (IV4)	5	0.892
Marketing Information (IV5)	5	0.907
Consumer Online	5	0.921
Purchasing Behavior (DV)		

According to Kline (1998), when both the values of skewness and kurtosis are within ± 1.96 and was performed on the sample distribution, it is normal. Normality can be assumed when skewness is < 3 and kurtosis < 10 as reflected in Table 5.

Table 5 Data Normality Test

No	Survey Item	Mean	Skewness	Kurtosis
IV1	The idea of online shopping is appealing	4.10	-1.43	2.27
IV1	Online shopping takes less time to purchase	3.75	-0.69	-0.44
IV1	Online shopping allows me to purchase products/services from other countries	4.26	-1.85	3.55
IV1	It is easy to receive products/services purchase via online shopping and have them delivered to my home	4.16	-1.56	3.10
IV1	I feel that it is easy in evaluating and selecting a product while shopping online	3.60	-0.59	-0.51
		Mean	Skewness	Kurtosis
IV2	I like to shop online from a reliable and trustworthy website	4.36	-1.66	3.42

	I believe the website can be counted on to complete the transaction successfully	4.11	-1.15	2.19
IV2	I get my delivery on time when shopping online	3.61	-0.41	0.29
IV2	I think it is easy to make payment for online shopping	4.17	-1.63	4.15
IV2	I trust in the technology that online shopping platforms are using	3.91	-0.89	1.52
		Mean	Skewness	Kurtosis
IV3	I feel safe and secure with the security feature from the website store when shopping online	3.63	-0.49	0.26
IV3	I prefer to purchase from a website that provide safety and ease of navigation during payment process	4.23	-1.47	2.87
IV3	I believe that familiarity with the website before making actual purchase reduce the risk of shopping online	4.12	-1.36	2.54
IV3	The online security performance meets my expectations when making purchases	3.89	-0.95	1.80
IV3	I believe the detail of my transaction is secure and safe while shopping online	3.70	-0.76	0.79
		Mean	Skewness	Kurtosis
IV4	I will give good and positive reviews about the website to others when I am happy with the services	4.01	-1.17	1.89
IV4	I will encourage my family and friends to purchase from the same website	3.96	-0.88	1.42
IV4	I will continue to purchase from the same website store	4.15	-1.60	4.31

	in the future ie repurchase E-Service quality will have an impact on online repurchasing intention	4.21	-1.29	2.92
IV4	The website sends me information customized to my personal preference	3.78	-0.82	0.98
		Mean	Skewness	Kurtosis
IV5	I can buy the products anytime 24 hours a day while shopping online	4.26	-1.63	2.97
IV5	It is easy to choose and make comparison with similar or other products while shopping online	4.04	-1.18	1.20
IV5	The website layout helps me in searching and selecting the right product while shopping online	4.02	-1.18	1.64
IV5	Online shopping provides a broader selection of products/services	4.16	-1.40	2.65
IV5	I will buy more when there are discounts and vouchers	4.05	-1.17	0.92
		Mean	Skewness	Kurtosis
DV	Online shopping is easy to use	4.14	-1.36	3.41
DV	I prefer to buy from secure website and reputable store	4.36	-1.99	5.53
DV	I will continue to purchase using online channel as it will save me time	4.10	-1.11	1.98
DV	Website information and quality will impact my purchasing behavior	4.28	-1.70	5.05
DV	I can purchase via online anytime and anywhere	4.38	-1.90	5.44

The variable items like attitude, trustworthiness, security and safety, loyalty and marketing information are measured statistically on a 5 Likert scale from the range of 1 representing "Strongly Disagree" to 5 being "Strongly Agree".

Summary of Ranking of Independent Variables

Each of the variable in the questionnaire survey has been analyzed by generating the mean and standard deviation. The below Table 6 shows the ranking of the variables impacting the consumer online purchasing behavior and how the independent and dependent variable correlate with each other.

Table 6 - Ranking of Independent Variables

Variable	Survey Item	Mean	Standard Deviation
IV5	Marketing Information	4.107	0.954
IV2	Trustworthiness	4.032	0.834
IV4	Loyalty	4.020	0.844
IV1	Attitude	3.973	1.030
IV3	Security and Safety	3.915	0.861
DV	Consumer Online Purchasing Behavior	4.253	0.800

Based on Table 6 on the summary of ranking, marketing information score the highest mean at 4.107 with standard deviation at 0.954 followed closely with trustworthiness at 4.032 and loyalty at a mean of 4.020. Attitude's mean score is at 3.973 and security and safety at 3.915 with consumer online purchasing behavior at a mean of 4.253.

Pearson Correlation

Pearson's R can range from -1 to +1 according to Saunders et al., (2009) where positive correlation indicate that one variable increases simultaneous with the other, however a negative correlation indicate that one increases while the other decreases.

Linear Regression of the Variables

The Impact of Attitude on Consumer Online Purchasing

Table 7.1 – Model Summary of Attitude with Consumer Online Purchasing Behavior

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.671 ^a	.451	.449	.51790

Predictors: (Constant), Attitude

Table 7.2 – ANOVA of Attitude with Consumer Online Purchasing Behavior

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.658	1	88.658	330.548	.000 ^b
	Residual	108.091	403	.268		
	Total	196.749	404			

a. Dependent Variable: Consumer Online Behavior

b. Predictors: (Constant), Attitude

Table 7.3 – Coefficients of Attitude with Consumer Online Purchasing Behavior

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	2.073	.123		16.906
	Attitude	.549	.030	.671	.000

a. Dependent Variable: Consumer Online Behavior

For attitude (IV1), the significance level is below 0.05 on the ANOVA table at 0.000 and the variance in Model Summary table is 0.449 and the unstandardized beta (b) in Coefficients Table 0.549 for predictability. When consumer online purchasing behavior (DV) was predicted, it was found that attitude (IV1) (b=0.55, $p < 0.05$) was a significant predictor. The overall model fit was adjusted R Square = 0.449 or 45% of the variance in consumer online purchasing behavior can be explained by attitude.

Pearson Correlation Between Attitude and Consumer Online Purchasing Behavior

Table 7.4 – Descriptive Statistic of Attitude and Consumer

Online Purchasing Behavior			
Descriptive Statistics			
	Mean	Std. Deviation	N
Attitude	3.9733	.85393	405
Consumer Online Behavior	4.2528	.69786	405

Table 7.5 – Pearson Correlation of Attitude and Consumer Online Purchasing Behavior Correlations

		Attitude	Consumer Online Behavior
Attitude	Pearson Correlation	1	.671**
	Sig. (2-tailed)		.000
	N	405	405
Consumer Online Behavior	Pearson Correlation	.671**	1
	Sig. (2-tailed)	.000	

N	405	405
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** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson Correlation (Table 7.5) reveals a close strong positive correlation between attitude and consumer online purchasing behavior ($r = 0.671$, $n = 405$, $p = 0.000$). The highly significant $p < 0.01$ correlation reflect a high confidence level of association and this hypothesis H1 is supported

The Impact of Trustworthiness on Consumer Online Purchasing

Table 8.1 – Model Summary of Trustworthiness with Consumer Online Purchasing Behavior Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.791 ^a	.626	.625	.42753

a. Predictors: (Constant), Trustworthiness

Table 8.2 – ANOVA of Trustworthiness with Consumer Online Purchasing Behavior ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123.086	1	123.086	673.391	.000 ^b
	Residual	73.663	403	.183		
	Total	196.749	404			

a. Dependent Variable: Consumer Online Behavior

b. Predictors: (Constant), Trustworthiness

Table 8.3 – Coefficients of Attitude with Consumer Online Purchasing Behavior Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.975	.128		7.615	.000
	Trustworthiness	.813	.031	.791	25.950	.000

a. Dependent Variable: Consumer Online Behavior

When consumer online purchasing behavior (DV) was predicted, it was found that trustworthiness (IV2) (b=0.813, $p < 0.05$) was a significant predictor. The overall model fit was adjusted R Square = 0.625 or 63% of the variance in consumer online purchasing behavior can be explained by trustworthiness. The highly significant $p < 0.01$ correlation reflect a high confidence level of association and this hypothesis H2 is supported.

Pearson Correlation Between Trustworthiness and Consumer Online Purchasing Behavior

Table 8.4 – Descriptive Statistic of Trustworthiness and Consumer Online Purchasing Behavior

Descriptive Statistics

	Mean	Std. Deviation	N
Trustworthiness	4.0316	.67895	405
Consumer Online Behavior	4.2528	.69786	405

Table 8.5 - Pearson Correlation Between Trustworthiness and Consumer Online Purchasing Behavior

Correlations

		Trustworthiness	Consumer Online Behavior
Trustworthiness	Pearson Correlation	1	.791**
	Sig. (2-tailed)		.000
	N	405	405
Consumer Online Behavior	Pearson Correlation	.791**	1
	Sig. (2-tailed)	.000	
	N	405	405

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson Correlation (Table 8.5) reveals a strong positive correlation between trustworthiness and consumer online purchasing behavior ($r = 0.791$, $n = 405$, $p = 0.000$). The highly significant $p < 0.01$ correlation reflect a high confidence level of association and this hypothesis H2 is supported

The Impact of Security and Safety on Consumer Online Purchasing

Table 9.1 – Model Summary of Security and Safety with Consumer Online Purchasing Behavior

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.729 ^a	.531	.530	.47840

a. Predictors: (Constant), Security and Safety

Table 9.2 – ANOVA of Security and Safety with Consumer Online Purchasing Behavior

ANOVA ^a						
		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.516	1	104.516	456.666	.000 ^b
	Residual	92.233	403	.229		
	Total	196.749	404			

a. Dependent Variable: Consumer Online Behavior

b. Predictors: (Constant), Security and Safety

Table 9.3 – Coefficients of Security and Safety with Consumer Online Purchasing Behavior

Coefficients^a

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	1.432	.134	10.674	.000
	Security and Safety	.721	.034	.729	.000

a. Dependent Variable: Consumer Online Behavior

When consumer online purchasing behavior (DV) was predicted, it was found that security and safety (IV3) ($b=0.721$, $p < 0.05$) was a significant predictor. The overall model fit was adjusted R Square = 0.531 or 53% of the variance in consumer online purchasing behavior can be explained by security and safety.

Pearson Correlation Between Security and Safety and Consumer Online Purchasing Behavior

Table 9.4 – Descriptive Statistics Between Security and Safety and Consumer Online Purchasing Behavior
Descriptive Statistics

	Mean	Std. Deviation	N
Security and Safety	3.9146	.70578	405
Consumer Online Behavior	4.2528	.69786	405

Table 9.5 - Pearson Correlation Between Security and Safety and Consumer Online Purchasing Behavior

Correlations			
		Security and Safety	Consumer Online Behavior
Security and Safety	Pearson Correlation	1	.729**
	Sig. (2-tailed)		.000
	N	405	405
Consumer Online Behavior	Pearson Correlation	.729**	1
	Sig. (2-tailed)	.000	
	N	405	405

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson Correlation (Table 9.5) reveals a strong positive correlation between security and safety and consumer online purchasing behavior ($r = 0.729$, $n = 405$, $p = 0.000$). The highly significant $p < 0.01$ correlation reflect a high confidence level of association and this hypothesis H3 is supported

The Impact of Loyalty on Consumer Online Purchasing
Table 10.1 – Model Summary of Loyalty with Consumer Online Purchasing Behavior

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.749 ^a	.561	.560	.46281

a. Predictors: (Constant), Loyalty

Table 10.2 – ANOVA of Loyalty with Consumer Online Purchasing Behavior

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	110.429	1	110.429	515.556	.000 ^b
	Residual	86.320	403	.214		
	Total	196.749	404			

a. Dependent Variable: Consumer Online Behavior

b. Predictors: (Constant), Loyalty

Table 10.3 – Coefficients of Loyalty with Consumer Online Purchasing Behavior

Coefficients ^a					
Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
1	(Constant)	1.281		9.635	.000
	Loyalty	.739	.749	22.706	.000

a. Dependent Variable: Consumer Online Behavior

When consumer online purchasing behavior (DV) was predicted, it was found that loyalty (IV4) ($b=0.739$, $p < 0.05$) was a significant predictor. The overall model fit was adjusted R Square = 0.561 or 56% of the variance in consumer online purchasing behavior can be explained by loyalty.

Pearson Correlation Between Loyalty and Consumer Online Purchasing Behavior

Table 10.4 – Descriptive Statistics Between Loyalty and Consumer Online Purchasing Behavior

Descriptive Statistics			
	Mean	Std. Deviation	N
Loyalty	4.0202	.70717	405
Consumer Online Behavior	4.2528	.69786	405

Table 10.5 - Pearson Correlation Between Loyalty and Consumer Online Purchasing Behavior

Correlations			
		Loyalty	Consumer Online Behavior
Loyalty	Pearson Correlation	1	.749**
	Sig. (2-tailed)		.000

	N	405	405
Consumer Online Behavior	Pearson Correlation	.749**	1
	Sig. (2-tailed)	.000	
	N	405	405

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson Correlation (Table 10.5) reveals a strong positive correlation between loyalty and consumer online purchasing behavior ($r = 0.749$, $n = 405$, $p = 0.000$). The highly significant $p < 0.01$ correlation reflect a high confidence level of association and this hypothesis H4 is supported

The Impact of Marketing Information on Consumer Online Purchasing

Table 11.1 – Model Summary of Marketing Information with Consumer Online Purchasing Behavior

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.803 ^a	.645	.645	.41603

a. Predictors: (Constant), Marketing and Info

Table 11.2 – ANOVA of Marketing Information with Consumer Online Purchasing Behavior

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	126.997	1	126.997	733.734	.000 ^b
	Residual	69.752	403	.173		
	Total	196.749	404			

a. Dependent Variable: Consumer Online Behavior

b. Predictors: (Constant), Marketing and Info

Table 11.3 – Coefficients of Marketing Information with Consumer Online Purchasing Behavior

Coefficients ^a						
		Unstandardized Coefficients		Standard ized Coeffie nts		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.429	.106		13.452	.000
	Marketing and Info	.688	.025	.803	27.088	.000

a. Dependent Variable: Consumer Online Behavior

When consumer online purchasing behavior (DV) was predicted, it was found that marketing information (IV5) ($b = 0.688$, $p < 0.05$) was a significant predictor. The overall model fit was adjusted $R^2 = 0.645$ or 65% of the variance in consumer online purchasing behavior can be explained by marketing information.

Pearson Correlation Between Marketing and Information and Consumer Online Purchasing Behavior

Table 11.4 – Descriptive Statistics Between Marketing Information and Consumer Online Purchasing Behavior

Descriptive Statistics			
	Mean	Std. Deviation	N
Marketing and Info	4.1067	.81549	405
Consumer Online Behavior	4.2528	.69786	405

Table 11.5 - Pearson Correlation Between Marketing Information and Consumer Online Purchasing Behavior

Correlations			
		Marketing and Info	Consumer Online Behavior
Marketing and Info	Pearson Correlation	1	.803**
	Sig. (2-tailed)		.000
	N	405	405
Consumer Online Behavior	Pearson Correlation	.803**	1
	Sig. (2-tailed)	.000	
	N	405	405

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson Correlation (Table 11.5) reveals a strong positive correlation between marketing information and consumer online purchasing behavior ($r = 0.803$, $n = 405$, $p = 0.000$). The highly significant $p < 0.01$ correlation reflect a high confidence level of association and this hypothesis H5 is supported

Below table 12.1 is a summary results where all 5 independent variables are supported.

Table 12.1 – Results Summary
RQ1 to RQ5 – Results Summary (Linear Regression)

Based on the Linear Regression, all independent variables are a significant predictor

IV	DV	Model Sig. Level (< 0.05)	Model Adjusted R-Squared	Unstandardized Beta (Prediction)	Standardized Beta (Explanation)	Sig. Level (< 0.05)
Attitude - IV1	Consumer Online Purchasing Behavior DV	< 0.00	0.45	0.55	0.67	< 0.01
Trustworthiness - IV2		< 0.00	0.62	0.81	0.79	< 0.01
Security and Safety - IV3		< 0.00	0.53	0.72	0.73	< 0.01
Loyalty - IV4		< 0.00	0.56	0.74	0.75	< 0.01
Marketing Information - IV5		< 0.00	0.65	0.69	0.80	< 0.01

Table 12.2 – Summary of Hypotheses Results

Hypotheses	ANOVA/ Coefficients	Test	P Value	Finding
H1 To examine if there is a relationship between attitude and consumer online purchasing behavior during Covid-19 in Klang Valley	(b = 0.55, p < 0.05)	Pearson Correlation	0.000	Supported p < 0.01
H2 To examine if the online retail store reputation and trustworthiness have any influence on online shopping.	(b = 0.81, p < 0.05)	Pearson Correlation	0.000	Supported p < 0.01
H3 To examine if data transaction security and safety will influence online purchasing behavior.	(b = 0.72, p < 0.05)	Pearson Correlation	0.000	Supported p < 0.01
H4 To examine the influence of brand loyalty on online purchasing behavior during Covid-19.	(b = 0.74, p < 0.05)	Pearson Correlation	0.000	Supported p < 0.01

H5 To examine if marketing online portal information can influence consumer purchasing behavior in Klang Valley. (b = 0.69, p < 0.05) Pearson Correlation = 0.000, Support ed p < 0.01

Multi Linear Regression

Multiple linear regression analysis is to study the relationship between the independent variables and dependent variable.

Table 13.1 – Model Summary Multiple Linear Regression

Model Summary									
		R Square		Adjusted R Square		Std. Error of the Estimate		Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.881 ^a	.776	.773	.33238	.776	276.392	5	399	.000

a. Predictors: (Constant), Marketing and Info, Attitude, Loyalty, Security and Safety, Trustworthiness

Table 13.2– ANOVA Multiple Linear Regression

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	152.670	5	30.534	276.392	.000 ^b
Residual	44.079	399	.110		
Total	196.749	404			

a. Dependent Variable: Consumer Online Behavior

b. Predictors: (Constant), Marketing and Info, Attitude, Loyalty, Security and Safety, Trustworthiness

Table 13.3– Coefficients Multiple Linear Regression
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	.458	.106		4.309	.000
Attitude	.074	.028	.091	2.659	.008
Trustworthiness	.270	.047	.263	5.734	.000
Security and Safety	.068	.042	.069	2.639	.009
Loyalty	.207	.036	.210	5.699	.000
Marketing and Info	.319	.032	.373	10.022	.000

a. Dependent Variable: Consumer Online Behavior

A multiple regression was carried out to examine whether attitude, trustworthiness, security and safety, loyalty and marketing information could significantly predict consumer online purchasing behavior. The results of the regression model

explained 78% of the variance was a significant predictor of consumer online purchasing behavior, ($F_{5, 399} = 276.39$, $p < .01$).

The results of the simultaneous multiple regression tested among the consumers (Table 13.1) reflects a significance of $p = 0.00$ ($p < 0.05$) which conclude that the model is a good fit and valid.

The adjusted R Square value of 0.773 revealed that the independent variables can collectively explain 77.3% of this model. The remaining 22.7% of the outcome (influencing the consumer online purchasing behavior) are due to other inconsistencies or errors in the data. The ANOVA output (Table 12.2) show $p = 0.000$ ($p < 0.05$) and this confirm a linear relationship between the dependent and independent variables in the linear regression.

Attitude ($b = 0.07$, $p < 0.01$), trustworthiness ($b = 0.27$, $p < 0.01$), security ($b = 0.07$, $p < 0.01$), loyalty ($b = 0.21$, $p < 0.01$) and marketing and information ($b = 0.32$, $p < 0.01$) contributed significantly to the model.

The final predictive model:

Consumer online purchasing behavior = $0.46 + (0.07 * \text{attitude}) + (0.27 * \text{trustworthiness}) + (0.07 * \text{security and safety}) + (0.21 * \text{loyalty}) + (0.32 * \text{marketing info})$

The below table 14 indicate the importance explanatory capability of each significant variable with marketing and information at the top of the beta structure, followed by trustworthiness, loyalty, attitude and lastly security and safety.

Table 14 – Standardized Beta Ranking

	Variable	Standardized Beta	Unstandardized Beta	Significance Level
1	Marketing information	0.37	0.32	< 0.05
2	Trustworthiness	0.26	0.27	< 0.05
3	Loyalty	0.21	0.21	< 0.05
4	Attitude	0.09	0.74	< 0.05
5	Security and safety	0.07	0.07	< 0.05

In summary, the findings from this multiple linear regression research confirm that marketing information, trustworthiness, loyalty, attitude and security and safety are positively related to consumer online purchasing behavior among the Malaysian consumers which is significant as highlighted in below tables.

Table 15 – Results Summary Multiple Linear Regression

RQ6 : Results Summary (Multiple Linear Regression)

Based on the Multiple Linear Regression, all independent variables are positively related to consumer online purchasing behavior

IV	IV	Model Sig. Level (< 0.05)	Model Adjusted R-Squared	Unstandardized Beta (Prediction)	Standardized Beta (Explanation)	Sig. Level (< 0.05)
Attitude - IV1	Consumer Online Purchasing Behavior	< 0.01	0.77	0.74	0.09	< 0.01
Trustworthiness - IV2				0.27	0.26	< 0.01
Security and Safety - IV3				0.07	0.07	< 0.01
Loyalty - IV4				0.21	0.21	< 0.01
Marketing Information - IV5				0.32	0.37	< 0.01

From multiple linear regression analysis, marketing information, trustworthiness, loyalty, attitude and security and safety are positively related to consumer online purchasing behavior among the Malaysian consumers which is significant.

DISCUSSION AND CONCLUSION

The objective of this study is to investigate if attitude, trustworthiness, security and safety, loyalty and marketing information will affect consumer online purchasing behavior. It will also examine which of the factors show the highest influence on the consumer online purchasing behavior.

Consumer behavior toward online shopping in Malaysia by Tan et al., (2020) highlighted that rapid online purchasing activities in Malaysia is encouraged by the government agenda towards promoting use of digital transaction that can influence consumer purchasing behavior. The Covid-19 pandemic has affected the whole e-commerce industry and changed consumer purchasing behavior and the nature of business by Bhatti et al., (2020). The current will change consumer perception and attitude towards risks and can cause changes in consumer purchasing behavior from economic and social context (Oana, D., 2020)

Impact of Attitude towards Consumer Online Purchasing Behavior

The results are in line with the studies from Jusoh and Goh (2012), Jun and Jaafar (2011), Chen et al., (2020) which demonstrated significant relationship between attitude and consumer online purchasing behavior. The study by Shergill and Chen (2005) indicated a direct impact on online purchasing and attitude especially towards the brand and modern consumers show different attitude when making purchases online. The research study by Atulkar and Kesari (2019) reviews that attitude towards online shopping is affected by ease of use, usefulness, enjoyment including consumer traits, situational factors, product characteristics and previous online shopping experience.

Impact of Trustworthiness towards Consumer Online Purchasing Behavior

The research by Meskaran et al., (2013), highlight that trust and security are the two main factors that affect online purchasing intention. McKnight et al., (2002) indicate that trust include online consumer beliefs and expectancies of characteristic of the online seller and is one of the main barriers for understanding potential e-commerce customers.

Impact of Security and Safety towards Consumer Online Purchasing Behavior

From the research by Lim et al., (2019), the study explores the role of perceived security such as service, network, platform and device security as mobile payment such as Apple Pay and Samsung Pay is one of the fastest growing trend and will affect consumer purchasing behavior.

Imudeen (2018) explores the development of technology and the perceptions of attitude towards online risk is vital for e-commerce. Security risk is connected to financial risk where the probability of financial losses can happen. Government and business organization have acknowledged data privacy and security to be main problems for consumer related e-commerce.

Impact of Loyalty towards Consumer Online Purchasing Behavior

The research study by Moez and Gharbi (2012) highlight that practitioners of e-commerce should use some measures and strategies for quality management of sites to create loyalty to the merchant sites which is in line with another research by Shafiee and Bazargan (2018) that highlight online merchants need to explore ways to retain satisfied and loyal customers. The study by Garepasha et al., (2019) review the effect of quality service and relationship on customer loyalty in different stages of the lifecycle relationship similar to the research by Kwiatak et al., (2019) that relationship quality will affect sales and customers spending and loyalty. Hajli et al., (2020) indicated that brand will help create commitment and loyalty in digital social communities.

Brand equity will affect brand loyalty and can reduced marketing cost. Existing customers who are loyal can be a winning factor in a competitive market share and with positive relationship and satisfaction, customer tend to stay loyal and maintaining a valued relationship is a recipe for long term success.

Impact of Marketing Information towards Consumer Online Purchasing Behavior

A study by Schwarzl and Grabowska (2015) review that constant development of marketing strategies is necessary where different kind of touch points information is critical to guide potential buyers without losing them in the process and Gibson (2018) highlight that organization needs to integrate technology as part of the marketing plan and focus on the needs of the customers.

Tan et al., (2017) study review that social media website has positive influence on consumer purchasing behavior and consumers use social media to generate content and network with other users. Another research by Ziyadin et al., (2019) highlighted digital culture and advertising in the mobile environment can influenced consumer purchasing intentions while another study by Ramya and Kartheeswaran (2020) indicated digital marketing is where consumers can interact with product by virtue of digital media. Digital marketing is used to influence consumers including email marketing (Ambily, 2017) as an emerging tool in the marketing world. In the social e-commerce marketplace, consumer can promote and sell products and services within the online communities.

The research finding is a multiple linear regression was conducted and based on the data collection, there is relationship from all the independent variables of attitude, trustworthiness,

security and safety, loyalty and marketing information that can affect the consumer online purchasing behavior during the Covid-19 pandemic.

Therefore, based on the findings on the relationships and characteristics of the variables and the standardized beta, marketing information is the most important factors followed by trustworthiness, loyalty, attitude and lastly security and safety that can influenced consumer online purchasing behavior. Overall, this present study has successfully answered the research questions and address the research objectives.

The mono use of the quantitative approach does limit the collection of a more in-depth data knowledge of the consumers as every individual behavior is different during crisis period. The earlier literatures are based on online purchasing behavior during a "normal period" therefore to achieve a better result a mixed model of quantitative and qualitative approach is recommended for future research to enhance the consumer mindset and behavior study during the pandemic period. During the pandemic crisis and lockdown period, consumers have no choice but to go online to purchase food and necessity and have to learn how to use the technology to complete the purchase and internet connection coverage may not be available in rural area including smartphone availability for some families, so it is important to understand how these group of consumers, manage during the crisis period. The sample size should be increased for future research to cover other geographical area in Malaysia to have a more representation of the population.

RECOMMENDATION

Based on the research results, managerial and theoretical implications including recommendation for future research are suggested for further improvement. Limitation of this study are highlighted to improve the quality of future research project.

Practical Recommendation

This research results have significant practical implications especially for small and medium companies, manufacturers, transportation, freelancers, marketers as well as government policy makers and other relevant parties that aims to encourage consumers to go digital whether from the sales and marketing, operations and supply chain, financial and procurement including empowering the people especially the workforce and educators to go digital with the internet access and easily available smartphones.

As Malaysians spend an average of 4 to 5 hours on the internet per day now, it is critical for business to adapt to the new ways of doing business online to capture their market share through marketing strategy and create loyalty program for continuous engagement program. Since the government is pushing more internet access in the education sector to build the nation to be a digital country, internet of things is the way to move forward for Malaysian which can be supported with the results from the demographic where 80% of the respondents are degree holders and above. Female respondents (at 58%) tend to shop more online especially the married respondents (58%) and it will save them time and money with online shopping.

From the online shopping industry, it will spin off to other industry like the transportation industry for delivery and create more job opportunities for the manufacturing sectors for packaging of boxes or biodegradable plastic to package the parcels.

Theoretical Recommendation

The Technology Acceptance Model (TAM) is an information model on how consumers will accept and use a technology which is relevant for this research. This can be explained where consumers will need to use internet or smartphone to purchase online to get their products or services and their acceptance of using the technology and this has been tested in older populations especially during this pandemic crisis where most of the workforce are working from home and students are studying at home via online instead of physically at school.

The adoption of fintech payment services and consumer knowledge on the mobile fintech services will help to give the service more reliability like service security, platform and network security and device security in the eco-system.

CONCLUSION

The current research has conceptualized the relationship of independent variables of attitude, trustworthiness, security and safety, loyalty and marketing information which are promising variables for encouraging consumer online purchasing behavior based on the results. The discussion of the key findings highlighted that all research objectives and questions were supported.

Since Malaysia is the fastest growing country in digitalization and Malaysian are technologically savvy, online shopping will be the new way to purchase products and services versus the traditional method of visiting a store but by bringing the store to the house now.

Therefore, with all the right variables, consumers will tend to buy more frequently online, as it saves time and money, and they can purchase any items in the world as it is borderless now and bring positive impact and spur the Malaysia economic.

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