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DECLARATION

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(2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the FYP.

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LIST OF ABBREVIATIONS

ANOVA	Analysis Of Variance
CCS	Cisco Consulting Services
E-WOM	Electronic – Word Of Mouth
DFTZ	Digital Free Trade Zone
SPSS	Statistical Package for Social Science
UTAR	University Tunku Abdul Rahman
STPM	Sijil Tinggi Persekolahan Malaysia
S-O-R	Stimuli-Organism-Response

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PREFACE

The research project that is undertaken by our group constituted as a fulfilment of the requirement in pursuing the Undergraduate of Bachelor of International Business (Hons). We have selected “Effectiveness of Digitalization Towards Retailing Business” as our topic to conduct this research. In this research, we have outlined the two variables in our topic which include perceived personalization and perceived interactivity in retail business.

The selected variables play a crucial role in determining the possible factors effectiveness of digitalization towards retailing business. The motive of choosing the digitalization of retail business industry-related topic as our area of study is due to the digitalization in retail business is still relatively new to the market and it does not consist much of emphasize and focus of the researchers on this topic. The topic that we have chosen may also contribute useful information and findings to several parties such as retail business, government, future researchers and customer to have better understanding on digitalization of retail business and its determinants.

ABSTRACT

This study was aimed to investigate effectiveness of digitalization in retail business in Klang Valley area. To specifically examine the in-depth of digitalization in retail business, background and issues related to the research topic has been discussed. This study is designed to achieve the following objectives: (1) To investigate the relationship between perceived personalization and customer experience; (2) To investigate the relationship between perceived interactivity and customer experience; (3) To investigate the relationship between customer experience and customer satisfaction; (4) To investigate the relationship between perceived personalization and customer satisfaction; (5) To investigate the relationship between perceived interactivity and customer satisfaction; (6) To investigate the mediation effect of customer experience between perceived personalization and customer satisfaction; (7) To investigate the mediation effect of customer experience between perceived interactivity and customer satisfaction.

This research may also be beneficial to certain parties such as retail business, government, future researchers and customer. Furthermore, reviews of literature by previous author and researcher are provided in order to further explain the association between the variables and the explanation of digitalization in retail business.

In this research, data are collected from primary sources where questionnaires are distributed to 300 respondents in Klang Valley area using convenient sampling technique, in which the respondent who have experiences with online shopping. Statistical Package for the Social Sciences (SPSS) software version 21 is used to carry out the research to construct new findings in the relationship between perceived personalization, perceived interactivity, customer

experience and customer satisfaction. The results and findings are then demonstrated in few different parts which included descriptive analysis for demographic profile, constructs for central tendencies measurement, measurement of scale and the inferential analysis. Last but not least, all the findings in the research are concluded in the last chapter. Implications of the study are also further described, as well as the limitations of the study. Not to mention, several recommendations for future research are provided in order to sums up the entire completed research.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

Chapter 1 comprises a total of 8 sections. There are research background, problem statement, research questions, research objectives, hypothesis and the significance of research including the outline of all chapters with conclusion. The research background briefly explains about digitalization of retail business in Malaysia. Research background included the past, current and future trend of retail business. It explains the problem statement in following part, i.e. what are the problems in this industry and what made retailing industry became more and more digitized. The research objectives are identified to examine the independent of variables that affect the dependent variables. Besides, the research questions determined will be studied in further chapters. Nevertheless, hypotheses are formed in the research. Last but not least, the significance of this research is presented.

1.1 Research Background

Digitalization

This research studies the effectiveness of digitalization towards retailing. Recently, a thesis explained that digitalization is the way how regions of social life are revolving around the digital world and media infrastructures. Furthermore, digitalization is converting analogue streams of information into digital form. According to past research, the term of digitalization is mixed, it stated that digitalization shows the use of technology in digitalizing information. In short, people defined digitalization as the use of digital technologies. However, from retail business perspective, digitalization means that a broadly integration of digital technologies into the retailing business (Srai & Lorentz, 2018).

Digitalization has transformed the society. With the rapid growth of internet and new technologies, consumers' buying behaviour is changing to adapt to different evolution. Digitalizing a business has become more and more popular in retail business. An important aspect of digitalization is e-commerce where the implication of digitalization is above and beyond the commerce industry. For instance, mobile applications are used not only for e-commerce but also in fixed stores settings in order to compare features, qualities, price and environment. Moreover, mobile application can also be used for facilitating payment, create own shopping list and etc. Emerging of internet and new technologies has allowed digitalization to apply in retail business. The huge data in internet allow retailer to be well prepared and better in forecasting consumer buying behaviour, therefore, can increase the effectiveness in targeting consumers (Hagberg, Jonsson, & Egels-Zandén, 2017).

1.1.2 Retail business

Retail defines as the sales of good to end user and it is not for resale purpose. It is for the use and consumption for the end users as known as purchaser. Retail business includes the selling of products where it can be purchased directly by a customer who wants to use the product. Mobile shopping application, internet shopping website or a catalogue could be the point of purchase of customers. Thus, a retail transaction is the end of the chain (Farfan, 2018).

1.1.3 Previous trend of retail business

In Malaysia, previous traditional retail format were mainly grocery shops or mini markets. Consumers can get almost everything they wanted from a minimarket such as meat, fish, vegetables and other household supplies. However, since 90's, Malaysia retail business had changed to modern retail outlet such as hypermarkets and supermarkets where consumer can get everything that and it has more complete

products compare to the traditional retail market (Chamhuri, & Batt, 2013).

Previously, consumers need to walk in to physical stores to purchase a product. Consumers have to drive all the way out to reach the store, find a parking, then purchase the product wanted and lastly pay for the parking fees, petrol and even tolls to just get a wanted product. For instance, previously consumers have repeat all the process above to just get a product from Tesco but now consumers can shop from Tesco online website by just using the finger to add in the product they want in shopping cart and make payment. By comparing both processes, we can clearly see that online purchase is much easier than the previous purchasing behaviour. Also, more and more retail business is going to online because of the current and future trend.

1.1.4 Current trend of retail business

People cannot deny that, new technologies and internet are continuously contributing to the business market all around the world. E-commerce has hold a total share of 8.7% in the global retail total sales in 2016 and is presume to occupy 14.6% in year 2020 (Hagberg, et al., 2017). However, there is a crisis of physical stores that shows the declination because of the increasing competitors from the emerging of digitalization in retail business. Moreover, the physical stores are impacted by digitalization of retail business. Digital device such as mobile phone has increase the reputation of physical stores, for example, consumers will post their feedback online for other buyers as a reference. Subsequently, good reviews from customer can help a physical stores to enhance its reputation. Also, a business owner can advertise their business on online platform to increase their reputation. Thus, both retail business and the online website are connected to each other. For example, retailer can set a user friendly website to attract more consumers, however, consumers nowadays are paying attention on consumers' comment in the online website because comments are

the real word of the product. For instance, when consumers shop on Alibaba, Taobao, they cannot feel or touch the product, subsequently, comment of the product is what makes consumers to purchase a product (Hagberg, et al., 2017).

Subsequently, instead of separating both retail business digitalization, also known as e-commerce, and physical stores, also known as brick and mortar, the society is now view it as integration named click and mortar. For instance, Malaysia shopping mobile applications Shoppee, we can observe that a lot of official stores are collaborating with this apps, such as Mi store, Universal traveller, Samsung, Sharp, Giant, Levi's and etc. This shows that the current trend of digitalization in retail business (Hagberg, Jonsson, & Egels-Zandén, 2017).

Online shopping in Malaysia also has a big growth of 28.4% in last year, however, the retailer and malls are growing slowly with increment of only 2% (Surendran, 2018). According to the article, internet retailing in Malaysia grew from RM 1.29 billion in 2012 to RM5.09 billion last year. It is a three times increment in just five years. This sales include sales from pure e-commerce web sites and sites handled by store based retailers. This proves that online shopping has a great potential growing in coming years.

1.1.5 Future trend of retail business

Malaysia government has launched the National e-commerce Strategic Roadmap 2020 goals (Tuah, 2017). It will encourage on Malaysia's e-commerce industry to become the world's first Digital Free Trade Zone (DFTZ). Malaysia e-commerce has a collaboration with Alibaba which aimed to encourage the participation of local businesses into the digital trade and retailing industry. DFTZ is believe to enhance Malaysia's e-commerce by folding up the e-commerce growth and increase the GDP growth to RM 211 billion by 2020 (Tuah, 2017).

In the future, it is recommended that digitalization of retail business can allow consumer to contribute ideas to the retail business (Hagberg, Jonsson, & Egels-Zandén, 2017). For instances, by giving feedback to the businesses, retailers can generate new idea for their businesses and know what consumers want. It is best to listen to consumer's voice because although retailer is the one who is making the future trend of business but knowing what consumers want is still very important to a business.

Furthermore, it is recommended that throughout the digitalization of retail business, this platform should not only benefit to the consumer but also supplier, retail employee and etc.

1.1.6 Online Customer satisfaction

Previously, in year 2010, it stated that Malaysian mind is conservative and they prefer to buy something they can touch, see and smell instead buying from online they couldn't touch, see and smell it. Also, they are not able to bargain via online shopping. Besides, they are not able to get products immediately as they might occur delay in delivery of product. Furthermore, Malaysians are very uncomfortable of using credit card to do online shopping. They will have a feeling of insecure. Apparently, customers are not satisfying with online shopping (Vegiayan, Chee, & Osman Harun, 2013).

However, as online business is growing tremendously these days, online business find ways to satisfy customer needs via online. A research shows that online shopping platform in Malaysia is assumed to increase to RM 1.9 billion in Malaysia (Ludin, & Cheng 2014). Approximately 11 million of people who are age 15 and above can access to internet (Ludin & Cheng 2014). This figure shows that the huge number of online customers proven that online customer satisfaction is a main factor to business profitability (Ludin & Cheng 2014).

1.1.7 General overview

As presented from the research background, the current and future trend had proven that there are a lot potential opportunities to grow in this industry. In this research, the retailing business comprises of multiple channels such as independent brand owners and third-party companies such as Shopee, Lazada and TaoBao which acts as intermediaries in selling different product brands. However, the research done on the effect of digitalization towards retailing business in term of perceived personalization, perceived interactivity, customer experience and customer satisfaction seems lacking that leads to the need of the current study.

1.2 Problem Statement

As we all know, Malaysia government is encouraging the retailers enter to online platform (Tuah, 2017). Thus, Malaysia government will have many supports in promoting e-commerce such as National e-commerce Strategic Roadmap 2020 goals (Tuah, 2017). However, there are some challenges in this process.

In “The Edge Market”, it stated that previously, 90 % of occupancy in a shopping mall is very common but now 60 % of occupancy in a shopping mall is very common because of e- commerce. Thus, if this problem is increasing, it is a need for retailer who does not wish to join the online business trend to have a review on themselves (Chew, 2018). Either they will be left out in the retail market or they compete with the online retailer together.

In additional, the connection between technological characteristics of the social commerce environment with customer participation has not been discovered yet. Subsequently, S-O-R model creates a theoretical conclusion of different technological components as environmental stimuli. The constructs that chosen for this study as environmental

stimuli which including perceived personalization and perceived interactivity as these constructs are the various aspects of human interactions combine with peoples and the medium of technology. Perceived personalization and perceived interactivity are components that reinforce interactions between technologies and customers (Zhang, Lu, Gupta & Zhao, 2014).

Furthermore, there is a linkage between customer experience and customer satisfaction (Rose, Clark, Samouel & Hair, 2012). Customer experience which includes cognitive and affective experiential state does not directly influence consumer repurchases intention but through customer satisfaction, it can influence consumer repurchase intention (Rose, Clark, Samouel & Hair, 2012). Subsequently, in this research, customer experience and customer satisfaction are studied for further result.

E-commerce is a great opportunity for retailer, not a threat. It will grow stronger as consumers are finding information through online is getting increasing. However, shopping in mall as a past time, especially for tourists is still popular. Tourists like to do shopping or window shopping in a particular country where online shopping website still cannot replace physical stores (Kirat, 2017).

However, there is still a need for retailer to pay attention on how to integrate technology with their current business.

1.3 Research Questions

Questions of research have been constructed in order to understand the effectiveness of digitalization towards retailing. The highlight of this section will be on the relationship between perceived personalization, perceived interactivity, customer experience and customer satisfaction.

1. What is the relationship between perceived personalization and customer experience?
2. What is the relationship between perceived interactivity and customer experience?
3. What is the relationship between customer experience and customer satisfaction?
4. What is the relationship between perceived personalization and customer satisfaction?
5. What is the relationship between perceived interactivity and customer satisfaction?
6. What is the effect of customer experience between perceived personalization and customer satisfaction?
7. What is the effect of customer experience between perceived interactivity and customer satisfaction?

1.4 Research Objectives

The objectives of this research are to investigate the relationship between perceived personalization, perceived interactivity, customer experience and customer satisfaction that is developed based on the research questions.

1. To investigate the relationship between perceived personalization and customer experience.
2. To investigate the relationship between perceived interactivity and customer experience.

3. To investigate the relationship between customer experience and customer satisfaction.
4. To investigate the relationship between perceived personalization and customer satisfaction.
5. To investigate the relationship between perceived interactivity and customer satisfaction.
6. To investigate the mediation effect of customer experience between perceived personalization and customer satisfaction.
7. To investigate the mediation effect of customer experience between perceived interactivity and customer satisfaction.

1.5 Hypotheses of Study

H1: Perceived personalization has a positive impact on customer experience.

H2: Perceived interactivity has a positive and direct effect on customer experience.

H3: Customer experience has a positive impact on customer satisfaction.

H4: Perceived personalization has a positive impact on customer satisfaction.

H5: Perceived interactivity has a positive effect on customer satisfaction.

H6: Customer experience mediates the relationship between perceived personalization and customer satisfaction.

H7: Customer experience mediates the relationship between perceived interactivity and customer satisfaction.

1.6 Significance of Study

The rationale of the research is to study the effectiveness of digitalization towards retailing business. The objective is to identify the relationship between perceived personalization and perceived interactivity towards customer satisfaction with the effect of customer experience. The target market consists of customers who have access and experienced in the online platform. The intention was to identify whether the digital stimuli of customer has an effect towards customer satisfaction. Besides, this research has studied and understand the elements that affects the customer perception of online retailers in the form of e-commerce. This research helps the retailing industry in creating creative marketing strategy depending on different customer needs and wants. They need to analyze the best ways of delivering messages in order to attract the customer's attention. It is important to understand the thinking and the perception of customer in the retailing business.

1.7 Chapter Layout

The layout of the chapter comprises of Chapter 1, 2, 3, 4 and 5.

Chapter 1: Research Overview

Chapter 1 explains the background of the research from traditional brick and mortar businesses to the current trend of click and mortar businesses. The main section of this chapter focuses on the problem

statements faced by the retail industry, the developed questions for research, objectives and the hypotheses of research.

Chapter 2: Literature Review

The schematic diagram developed in Chapter 2 to identify the dependent and independent variables. The literature review explained the relationship between independent variable and dependent variables with effect of a mediator. The independent variable are the digital stimuli which are perceived personalization and perceived interactivity whereas the dependent variables is customer satisfaction. The mediator is customer experience. The hypotheses of the study will be develop between perceived personalization, perceived interactivity, customer experience and customer satisfaction.

Chapter 3: Research Methodology

The research methodology comprises the research design, sampling design, data collection methods, research instrument, data processing, construct measurement and data analysis was conducted in Chapter 3. It describes the techniques used to collect data and the methods of data collection that used in the research. The study uses descriptive analysis by conducting survey questionnaire to collect primary data. The factor analysis is conducted as well with the reliability test to identify the Cronbach Alpha level. The Baron and Kenny along with the Sobel Test has been used to obtain the mediation result. Besides that, multiple and simple linear regression test has been conducted as well.

Chapter 4: Research Results

Chapter 4 shows the data analysis from the questionnaire. The factor analysis and the reliability analysis results are shown to investigate the relationship of the variables. The results of the analysis will be presented in the tables and chart which illustrated by Statistical Package for Social Science (SPSS).

Chapter 5: Discussion and Conclusion

Chapter 5 shows the summary of the research finding, statistical analysis and discussions of major findings, and implications of study. Moreover, it discussed the limitation, delimitation and recommendations for the future research.

1.8 Conclusion

In summary, the research presented in Chapter 1 was an overview including background and problem statement. It also identify the research objectives, research questions and significance of study. Besides, the dependent variable and independent variable are determined to investigate the hypothesis for this research. Next, the research will explain further review about the literature review which is the relationship between perceived personalization and interactivity towards customer satisfaction with the effect of customer experience.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

In Chapter 1, the research background has been discussed from the brick and mortar businesses to the current trend of click and mortar businesses as well as the future trend in the retail industry. The developed research questions, objectives and the hypotheses of study will be discussed thoroughly in Chapter 2. The comprehensive review of published and unpublished information for effectiveness of digitalization towards retailing business have been stated in this chapter 2. In this research, multiple researches from other research and secondary data has been used as reference to define the variables to form the schematic conceptual framework for the current research. Finally, hypotheses testing were carried out to describe the correlation between the variables.

2.1 Review of the Literature

There are multiple literature pertaining in regards to business digitalization and e-retailing. The literatures states the interactivity between consumers and the retailing business through the digital platform which provide virtual experiences in comparison with the conventional experience.

2.1.1 Perceived Personalization

Social commerce platforms, which is commonly known as social media, filled with unique technological features. Customers go online to communicate on the social commerce platform with current technological attributes and create assumption of it. Studies has identified that technological attribute on social platforms are created within few elements which comprises of perceived interactivity and perceived personalization. These attributes capture consumer interactions with the social commerce platform through the medium of technology (Zhang, Lu, Gupta & Zhao, 2014). Personalization plays a crucial part in luring potential consumers. Users that are dissatisfied with their current site then an alternative site

exists that aids the users may perceived it to be valuable, therefore website-switching could happen (Ho, 2016). It is a method in tailoring information to the end user and helping them to organise the information processing (Graber, 2016).

Perceived personalization has been defined as the perception of customers towards the adaptability of the website to have their preference met. Website personalization strategies focuses mainly on supplying the consumer with customized content accordance to their needs, preferences, styles, prior communication and social networks (Tam & Ho, 2005). Personalization is the procedure of matching the social processes to give advice based on an understanding of individual's preferences. The process of personalization consistently matches data to link targeted content with different individuals (Jackson, 2007).

Personalization is a process that increases the content of information to its relevance of an individual as well as the process of retrieving and using the personal information about the needs and wants of customers to create promotions and information, which fits in perfectly to the customer needs (Buhalis & Amaranggana, 2015). Personalization do not focus only about providing whether an information on product or services is true or not but rather to provide various types of information with the intention to share it with customers at the right time and at the right place (Jackson, 2007). Therefore, the high perception on personalization is a proficient and rational cause for consumers to assume that online providers care and appreciate for them, and thus will instil a sense of social brace for the customers (Komiak & Benbasat, 2006).

Perceived personalization and perceived interactivity reflects the features that links the interactions between technology and customers. Customer's choice of going online and selecting e-commerce shows the diversity of the social commerce platform that could relate to their perceived personalization (Zhang, Lu, Gupta & Zhao, 2014). Customer's personal

preferences and needs would be effectively relate and affect by perceived personalization in the social media.

In social commerce, the personalization provided are categorized under a specific category that mark as specified personalized recommendations or offers especially made for you, which generate a stir up the environment for customers (Komiak & Benbasat, 2006). Personalization is seen as contents on the web which enable modification on a website for every visitor. It enables them to be differentiated businesses and how they conduct it in the real world (Jackson, 2007).

Therefore, personalization perception constitute the link between the website content and individual's choices. Due to vast information in the social commerce, perceived personalization would lessen customer's information screening cost and enhance their decision-making quality thus creates a better experience (Tam & Ho, 2005). Personalization technologies could increase customer's capacities to handle with the large amount of information that is made available on the Internet and reduce the complications faced. Personalization technologies basically work as recommenders as they provide recommendations that are moulded to the end user's demand (Graber, 2016).

By furnishing individualized offerings, content, and services, Internet personalization assists to control undirected surfing activity. Perceived personalization accommodate contents to individual needs that lessen the number of content and enhances information accessibility. Personalization can extensively refine the customer's chances of looking what they wanted in the event of not realizing it (Ho, 2016). In the service industry, personalization refers to a point where consumers expects that the services provided would catered to their desire accordingly. Service providers has been adapting their approach to accommodate the expectation by gathering proper and accurate information to enable themselves in providing the right offer at exactly the right time (Buhalis & Amaranggana, 2015). Many researchers and experts think that personalization could be the success for the future of E-Commerce revolution.

Personalization depicts the best opportunity of sustainability for online businesses. Personalization is a rapid growing area through the electronic media that attracts customers and retaining them to stay loyal to their websites (Jackson, 2007). Personalization technologies as mentioned are rapidly becoming a key tool in of communication flows on the Internet. Online content personalization technologies supply huge possibilities to customise news feeds to an individual's demand (Graber, 2016). Although personalization revolves around relevance, through communication, businesses need to make the website more relevant to the customers. Personalization retrieve information to deliver timely, consistent, and relevant individualized interactions and provide to customer across all factors that strengthens the customer loyalty and lifetime value (Jackson, 2007).

2.1.2 Perceived Interactivity

In social commerce environment, customers interact with each other through content creation and sharing information (Zhang, Lu, Gupta & Zhao, 2014). Among the benefits of internet is the potential for interactivity. The most basic components of interactivity are two-way communication, controllability and synchronicity. Synchronicity indicates that the website's ability to give user quick response, real-time feedback, and the messages speed processing (Abdullah, Jayaraman & Kamal, 2016). For example, swanking about their shopping experiences and posting shopping messages. Also, when customer wants to buy something online, but they cannot feel and touch the product, thus, they have to make decision based on others customer's shopping experience to make decision.

Customers provide informational and emotional support to others through such interactivity. Based on the social exchange theory, individuals respond and interact with each other when they derive benefits from them. Subsequently, acquiring informational and emotional values through

interactions in social commerce make customer feel committed to provide valuable information. High perceived interactivity in the platform creates content contribution, self-presentation and exchange of information to support customers. Hence, it creates social support (Zhang, Lu, Gupta & Zhao, 2014).

Sociability is also as an upcoming element of interactivity. It means that the website's limit to allow customer connect with each other through social networking tools, blogs and chat rooms. Most of the business out there are unable to provide live feed conversation among the customers and salespeople. However, it attempt and encourages their customers indirectly to achieve social value through different online tools by communicating with each other customers on the website (Abdullah, Jayaraman & Kamal, 2016).

According to Ha and James (1998), there are five dimensions of interactivity which aimed to fulfil communication requirements which are playfulness, choice, connectedness, information collection, and reciprocal communication. For example, web-poll that shows connection from one member to another is customer community (connectedness) which would lead the perception of that inter-face being more interactive. Perception of interactivity wouldn't affect interface but high connectedness will (Cyr, Head & Ivanov, 2009).

Furthermore, according to Lee (2005) components of mobile commerce interactivity setting are user control, responsiveness, personalization, and connectedness. These interactivity dimensions are an important aspect of website quality and shows the importance of interactivity in the online environment. Also, in Rice (1984), interactivity gives user more control over pace, structure, and content (Cyr, Head & Ivanov, 2009). Controllability or user control is also one of the components in interactivity. It means that user input and choice capability. It also means that user able to choose the content and sequences of communications and choose timing (Abdullah, Jayaraman & Kamal, 2016). According to Klein (2003), Interactivity gives

customers a sense of control as they faced dilemma with brands of their desires instead of needs (Parise, Guinan & Kafka, 2016). Subsequently, in depth perceived interactivity is allowing the user to access and control information on the site many ways as in both personal and responsive. User control indicates the ability of the user to control information content and display. Responsiveness indicates the site as being able to respond to user queries. Subsequently, perceived interactivity is caused by the level of user control, connectedness and responsiveness (Cyr, Head & Ivanov, 2009).

In addition, website interactivity heuristic website trust. Customer judge the website based on different criteria. For example, criteria such as web site appearance, information design or structure, and information clarity. A judgement given by a customer to a website is extremely fast with only about 2.4s in addition with interactivity as part of heuristic to influence the processing route. Subsequently, it argues that a highly interactivity web site can quickly gain customers' trust on the web site and it also claimed that the product the product is trustworthy. In contra, the lower the web site interactivity, the lower the trustworthiness of the web site. Nevertheless, some of the authors claimed that as the web site interactivity increase, this will lead to more positive web site evaluations and it shows and produce more favourable attitudes towards high purchase intentions and brand. It also shows that web site interactivity enhance the perceptions of quality on the online services (Valdez, Cervantes & Motyka, 2018).

2.1.3 Customer Experience

Customer experience is known as subjective and internal responses that customers have to go through either directly or indirectly to have contact with a company. Customer experience is conceptualized as a form of emotional expression, which is a holistic, intuitive response resulting from customer's association with the retailers which may involve different levels of customer involvement (Rose, Clark, Samouel & Hair, 2012). Customers received incoming sensory information from a scope of stimuli from the e-retailer's website such as text-based information, visual aid, videos and

clips, or audio sound (Rose et al., 2012). Online customer experience features that past experience influences the future online buying behaviour. The impression of the formation as is accumulated following repeated exposure to the e-retailer (Ling, Chai & Piew, 2010). Consumers experience various emotional states such as happiness or unhappiness, comfort or discomfort of the product and services (Kim, Park, Park, Kim & Kim, 2018).

The result of customer experience is the creation of a “take-away impression” that is formed as an outcome of the connection between retailers and customers that is stored in the customer’s long-term memory. Customers with consistent purchases through online shopping usually have prior knowledge that helps in reducing their uncertainties. Therefore, customers usually would only purchase products from the Internet with the experience that they had before. Customers usually purchase with the same retailer because of their prior experience whether with product or service quality provided. Customers gain value by purchasing online when their demand and expectations are met (Ling, Chai & Piew, 2010). The impression formed is highly based on personal opinion of the individual’s perception of information and data from the external environment (Rose, Clark, Samouel & Hair, 2012).

Prior experiences of online shopping strongly affect future buying behaviour. Customers often judge their experiences in terms of perceptions of few elements such as, form of payment, product information, delivery terms, risk involved, service offered, security and privacy, personalization, visual appeal, navigation, entertainment and enjoyment (Ling, Chai & Piew, 2010). A few element has been identify as the online customer experience which are sensorial, emotional, cognitive, pragmatic, lifestyle, and relational (Rose, Clark, Samouel & Hair, 2012). The retail websites provide and offers an opportunity to increase differential value to customer by giving full information about alternative products (Novak, Hoffman, & Yung, 2000).

Provided that the online shopping communication do not happen at the retailer's location, e-retailer are unable to control or provide full customer experience. The situation may occur at home or office which could be influence by many external variables where the e-retailer may be unaware of (Ling, Chai & Piew, 2010). Creating a captivating online environment for online customers will have many positive outcome for online retail providers. Customer experience with the Internet drives the growth of Internet shopping thus increase the chances of online shopping (Ling, Chai & Piew, 2010). Furthermore, attractive online customer experience is more important than offline experience. This is because it helps to promote a strong word-of-mouth through online social media platform which is now the most significant driver of customer count to the commercial websites (Novak, Hoffman, & Yung, 2000).

Customer decipher these data from a cognitive and affective perspective forming impression created by the e-retailer website. Two psychological element such as cognition and affection have been consistently known as influential elements of customer behaviour and customer experience (Rose, Clark, Samouel & Hair, 2012). The customer engagement in cognitive and affective processes the incoming sensory information from the website which resulted the creation of an impression in memory. A few rules would influence the cognitive and affective state of the customer. Repetitive website exposure to the customers could create better & good impression that could be formed cumulative over time (Ling, Chai & Piew, 2010). During the process of evaluation, consumers consider both cognitive and affective perspective. They evaluate through various dimensions such as the quality, worth for money and utilitarian aspects.

Cognitive and affective satisfaction indicates that both consumers' emotional and rational judgement response toward overall consumer satisfaction. Both cognitive and affective components affect consumer's satisfaction (Kim, Park, Park, Kim & Kim, 2018). Cognitive fit is the ability to provide expertise and relevant information to customers when they need it. For example, customer need to know the performance of a car during

winter season, therefore the technology should be able to aid customer with information on the type of car that could be best during the winter season (Parise, Guinan & Kafka, 2016). In the early models, customer satisfaction mainly pays attention on cognitive processes, however, recent research has indicates that affective plays a crucial parts in satisfaction. According to Murphy et al. (2011), it is seen that customer experience for leisure shopping affect customer satisfaction. Consumers experience could be in a non-quality part of service which may have direct and indirect effect on the customer's satisfaction level. The review shows that affective, cognitive experience and sensory influences satisfaction (Kaul and Srivastava, 2014).

2.1.4 Customer Satisfaction

Customer satisfaction is defined as the comparison between pre-purchase expectation and post purchase actual performance (Duarte, e Silva & Ferreira, 2018). Customer satisfaction appears when the performance of product or services hit or exceeds the customer expectation. Also, customer satisfaction will lead to further and future repurchase intention (Popp & Woratschek, 2017).

It is suggested that the easier the consumers to experience and benefit the service, the higher the consumer satisfaction and most likely will reuse them (Duarte, et al., 2018). In the mobile service context, satisfaction as a driver of customer intention and satisfaction in this study will influenced by perceive enjoyment, perceived ease of use and perceived usefulness (Dovaliene, Masiulyte & Piligrimiene, 2015). Thus, the easier or user friendly the online website for consumer to use, the most likely the consumer will revisit the online website (Duarte, et al., 2018).

Also, it also proves that if customer is satisfied on its online purchase, they will likely create electronic word of mouth (e-WOM). E-WOM can impact other consumers purchase decision. It is also included new form of communication methods such as weblogs, discussion form and social network websites. Consumer often experience from the comments given by

other consumers first before purchase a product (Duarte, e Silva & Ferreira, 2018).

Also, customer satisfaction is also a key of customer-company relationship and key determinant of customer loyalty. Customer satisfaction shows a customer post consumption evaluation on product or services (Popp & Woratschek, 2017). In order to positively increase customer loyalty and influence continuance intention, many researchers have been concluded that, customer satisfaction on a service has been long recognized as a critical concept to increase customer loyalty and repurchase intention. Researcher has also investigated the determinant of satisfaction in the telecommunication industry because customer satisfaction play an important role in this industry. In Kim et al (2015), also showed that customer support functions as a predecessor of customer satisfaction and customer loyalty for Korean mobile telecommunication service.

Lastly, customers who are satisfied has the tendency to pay more in order to receive the benefits. Also, they are more highly to accept the increase in prices. Most of the researches also state that having effect of customer satisfaction involve employee's behaviour. It includes their courtesy level, friendliness, support and competence. It shows that customer satisfaction is seen closely tight with employee behaviour (Gloor, Colladon, Giacomelli, Saran, & Grippa, 2017). Besides, in mobile user engagement (MoEN) model, it stated that and supported by empirical research, the more the customer is satisfied with product or services, the more likely customers are mean to engage with value creation (Dovaliene, Masiulyte & Piligrimiene, 2015).

2.2 Formation Framework

The formation of the frameworks has been adopted to develop the conceptual framework for this research. Both figure 2.1 and 2.2 had used the S-O-R model to construct their frameworks. In this study, the S-O-R model is adopted to develop the conceptual framework.

Figure 2.1: Transforming the Customer Experience



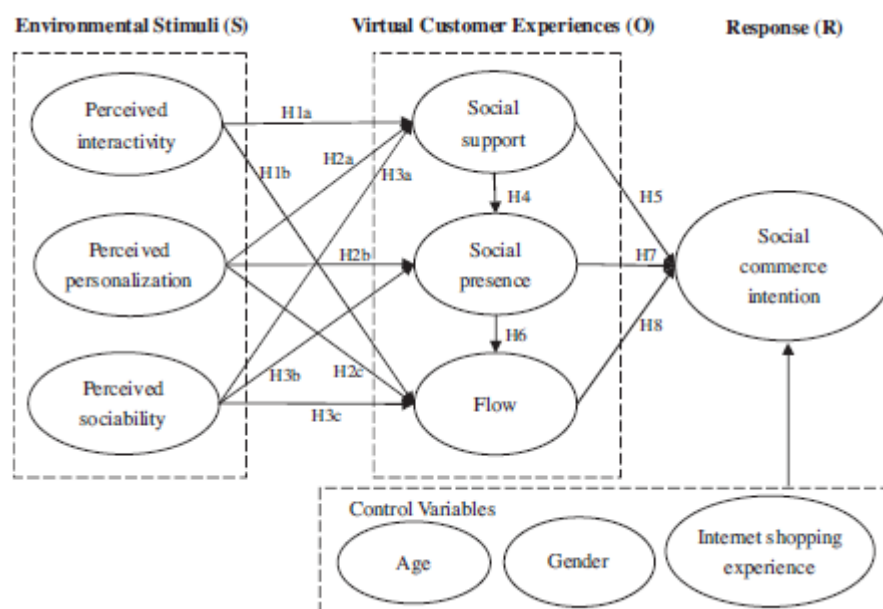
Source: Parise, S., Guinan, P. J., & Kafka, R. (2016). *Solving the crisis of immediacy: How digital technology can transform the customer experience*. Business Horizons, 59(4), 411-420.

The modern world is driven by customers, where customer express much of their desired content instead of the retailer. Retailers can no longer be observe passively in hoping the content of the products find the right customer. In order to improve, retailers are to personalized shopping experience, improve in customer service and providing experience that relates emotionally and cognitively.

The findings of this journal shows the two major role of technology-based construct that are used to assist customers' direct needs which are digital assistant and remote expert. Through the research, it is found that personalization and interactivity enhances customer satisfaction and also reflects positive customer attitudes towards the brands.

The journal performed interview sessions with more than 35 retailers in different industry which communicate with customers across different channels. In addition, they interviewed vendors with technology especially those related to delivering video conferencing and mobile solutions. Nevertheless, other findings of Cisco Systems Consulting Services (CCS) group includes surveys and interviews of 2,000 retail businesses located all over U.S. and UK shoppers and 3,000 number of shoppers from Brazil, Mexico, and China.

Figure 2.2: Research model based on the S-O-R paradigm



Source: Zhang, H., Lu, Y., Gupta, S., & Zhao, L. (2014). *What motivates customers to participate in social commerce? The impact of technological environments and virtual customer experiences*. Information & Management, 51(8), 1017-1030.

The objectives of this research is to give foundation view into the participation of customer in online commerce. According to the stimulus–organism–response paradigm, the study forms a model to identify the effects of technological attribute such as perceived interactivity and personalization and

perceived sociability on customers' virtual experiences of social support, social presence and flow and followed by their participation intention.

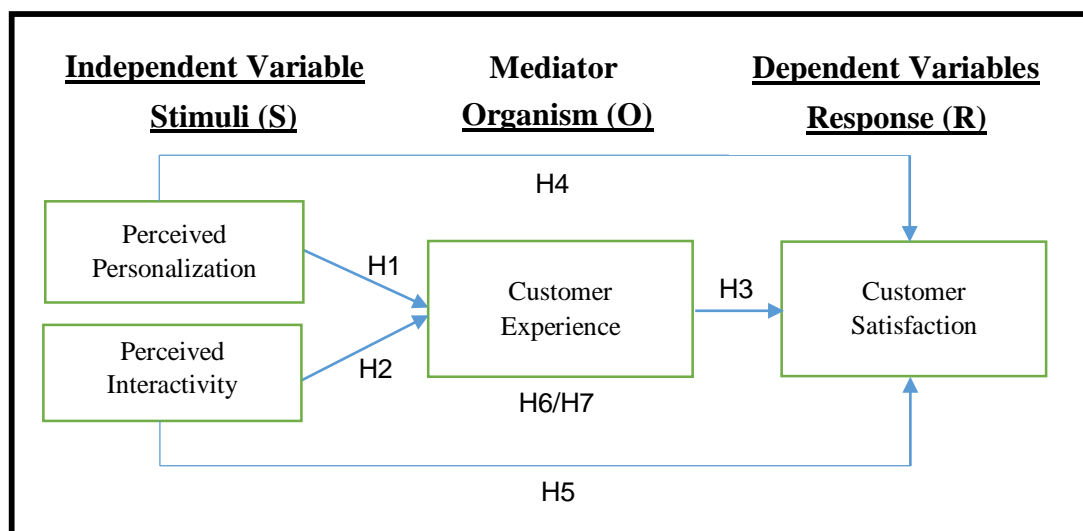
The result shows perceived interactivity influence positively towards social support and flow in the e-commerce platform. Besides that, perceived personalization has high influence on social presence, social support and flow, and increases flow. This shows that the stimuli plays a major role that either affect positively or negatively to the other variables.

The study had used extensive literature review to provide definitions of the constructs and key-related literature as they are required to translate from Mandarin back to the English language. Back translation has also been used to ensure translation validity since the respondents are mostly Chinese respondents. Besides that, online survey has also been performed to collect data from respondent with experience in online commerce.

2.3 Conceptual Framework

A conceptual framework has been formed to determine the relation between the variables. Figure 2.3 showed the relationship between independent variable and dependent variables with effect of a mediator. The independent variable are the digital stimuli whereas the dependent variables is customer satisfaction. The mediator is customer experience.

Figure 2.3: Effectiveness of Digitalization towards Retailing Business



Source: Developed for the research

The development of this conceptual framework is based on the framework of Parise, et.al from "*Solving the crisis of immediacy: How digital technology can transform the customer experience*" and Zhang, et.al from "*What motivates customers to participate in social commerce? The impact of technological environments and virtual customer experiences*". The model adopted from both of the journals is the S-O-R model which explains the consumer behaviour in e-commerce. The S-O-R model mentioned that the different aspects of environment act such as stimuli (S) together with the effect of people's internal states (O), which result their behavioural responses (R). The S-O-R model also shows the link of technological environments of social commerce to participation of customer's behaviour.

The S–O–R model was used previously in other studies in regards of online customer behaviour. The result shows the validity of the model in defining individuals' internal reactions with behavioural responses to the environmental stimuli. In addition, the important roles of virtual experiences and technological environments influences customer behaviour in social commerce. The S–O–R model also propose that customer experiences mediates the variables stated.

The independent variables of the study's conceptual framework are based on stimuli which are perceived interactivity and perceived personalization. The mediator is based on organism which is customer experience. For the dependent variables, it is based on response which is customer satisfaction. Thus, the S-O-R model has been adopted to form the conceptual framework for the study of effectiveness of digitization towards retailing business.

2.4 Hypotheses Development

The hypothesis is to investigate the relationship between the independent variables and the dependent variable with effect of a mediator. A set of hypotheses will be tested as followed.

2.4.1 The Relationship between Perceived Personalization and Customer Experience

Mobile advertising in China has gained major attention due to various unique attributes such as made to personalise. The competitive advantage gained by the advertisers are achieved through real time personalization with the use of personalization technology. Studies in China shows that customers tend to have negative attitude towards public advertising but personalization has shown that it could solve the problem stated. The personalization are formed based on customer's daily lifestyle, culture and routine which match their social pattern. Thus, through personalization, the feedback gained from the market has increased and reflects positively to the company's image. It does not only enhances the customer's experience but also at the same time enhances the image of the company (Xu, 2006).

H1: Perceived personalization has a positive impact on customer experience.

2.4.2 The Relationship between Perceived Interactivity and Customer Experience

Cognitive experiential state is one of the components under customer experience. This concept explains that, there is no relationship between the clause of interactive features embedded in customer appreciation of interactivity and website interactivity. Subsequently, in some cases, interactivity may have harmful effect towards customer attitudes to websites because it some concept shows customers have resistant to a certain levels of interactivity that makes it difficult on cognitive processing (Mollen & Wilson, 2010).

However, study shows that interactivity has the potential to be a significant influence in building online relationship. A broader and more complete role and relationship has been stated that as a significant contributor to build up the total shopping experience in internet (Merrilees, & Fry, 2003).

In additional, the process of consumption during interactivity plays a very crucial role in creating perceptions about services in retailing. Interactions among customers and interactions among customer and employee both are important in building good relationship to improve customer experience. Customer interaction with non-customer interactions such as smart phone application and self-service kiosk can also improve customer experience (Srivastava & Kaul, 2014).

H2: Perceived interactivity has a positive direct effect on customer experience.

2.4.3 The Relationship between Customer Experience and Customer Satisfaction

In early research customer satisfaction only focus on cognitive processes, however, in the research recently, it stated that affective experiential state also plays an essential role in customer satisfaction. Satisfaction shows the customer's judgement to a service or product that provides enjoyable consumption level fulfilment. Similarly, satisfaction of customers are conjointly with their affective responses to service. It is also stated that customer satisfaction are influenced by experiences through leisure shopping. Customer's affective experiential state in retailing can be a non-quality related dimension of service and have either direct or indirect impact on customer satisfaction level. This proves sensory, affective and cognitive experiential state affect customer satisfaction (Srivastava & Kaul, 2014).

H3: Customer experience has a positive impact on customer satisfaction.

2.4.4 The Relationship between Perceived Personalization and Customer Satisfaction

In terms of e-commerce services, customization and personalization plays a role in customer satisfaction. Few elements involve in this matter includes the ease of use and the website designed and created for the customers. The website should allow the customers to freely scroll around without much hassle in order to ease their search for specific products. In addition, the responsiveness of the page to the customer's queries affects as well. Real time response are highly encouraged but not all websites are able to response in real time, therefore a duration within six hours response can be noted as efficient as well. When the above are met, customer satisfaction can be achieved as it is catered specifically for different individuals with different needs (Kassim & Abdullah, 2010).

H4: Perceived personalization has a positive impact on customer satisfaction.

2.4.5 The Relationship between Perceived Interactivity and Customer Satisfaction

Customer satisfaction is affected by the interpersonal interaction between employees and customers. Employee's service is very important as it will impact on customer satisfaction. Customer satisfaction is also affected by employee's ability in providing knowledge and credibility of employee. This shows that the interaction between customer and business (Srivastava & Kaul, 2014). For instance, when customer enquire knowledge from online customer service, the ability of online customer service to provide accurate knowledge is very important in affecting customer satisfaction.

Communication is one of the ways to interact with customer whereby it will have a positive effect on customer satisfaction even if the service or product is failure in deliver to the customer. As the better the effectiveness of

communication, the lesser the negative impact on satisfaction. As more frequent to contact with customer, relationship will be strengthen and this lead to a positive outcome of buyer and seller relationship. Every interactivity component and dimensions is seem to have a positive impact with satisfaction (Murphy & Sashi, 2018).

H5: Perceived interactivity has a positive effect on customer satisfaction.

2.4.6 The Relationship between Perceived Personalization, Customer Experience and Customer Satisfaction

Online retailers should provide customized services to their customers even though they used websites as a medium to communicate with their customers. Customer representative should observe and monitor the behaviours of the online shoppers, and proactively assist them when the customers asked for assistance. Web sites could be customized with interfaces of visitors by using a so-called “personalization software”. The software utilizes a self-learning engine to examine the visitors’ real-time behaviours. For example, “what is visitor 334 looking at” and permit the online retailers to offer the customers similar suggestions (Jun, Yang, & Kim, 2004).

Besides that, online retailer should look into the ease of navigation in their online systems with well-organized online catalogues, and detailed contents. A well-designed navigational format can enable customers’ perceptions of online manual control and enjoyment. They should aid the customers in queries by providing meaningful information for both online and offline media. Thus, by doing so, customer satisfaction can be achieved as they enjoyed the personalized services and their needs and wants has been met (Jun, Yang, & Kim, 2004).

H6: Customer experience mediates the relationship between perceived personalization and customer satisfaction.

2.4.7 The Relationship between Perceived Interactivity, Customer Experience and Customer Satisfaction

In a research it stated that customer experience will increase interactivity and will lead to a positive outcome of customer satisfaction. For instance, if a customer is enjoying using technology to have a group discussion, it will positively influence on customer satisfaction in the online group chat. Enjoyment indicates that customer experience through the process (Zhao & Lu, 2012).

H7: Customer experience mediates the relationship between perceived interactivity and customer satisfaction.

2.5 Conclusion

A cleared and relevant conceptual framework has been developed with the adoption of the S-O-R model of previous research and the hypotheses development is well defined in this chapter through viewing the previous finding done by other researches. Next, the methodology of research will be clearly discussed in Chapter 3.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

In chapter 2, the literature review has been clearly discussed with dependent variable, mediators and independent variables. Also, the relevant conceptual framework has been developed as well. In addition, hypotheses development has been well defined through viewing the previous findings from other researches. This chapter will cover the discussion on research methodology. Research methodology is the techniques used to collect data or information in conducting the research. Therefore, this chapter includes method of collecting data, design of research, sampling design, instrument of research, construct measurement, data analysis and processing of data to show how the study is carried out.

3.1 Research Design

Research design is a principal plan that clearly states the strategies and measures for gathering and examining the desired information to address the research problem (Zikmund, Babin, Carr & Griffin, 2009). It provides framework or plan of action for researcher to avoid inappropriate information collected in solving the problem (Zikmund et al., 2009). For this study, quantitative research was chosen as data were collected from distribution of questionnaires and involves large number of respondents to produce the generalizable results. The data collected are through empirical assessment using numerical and statistical analysis to address the research objectives (Zikmund et al., 2009).

Besides, descriptive and inferential research are used and applied for this research. This study investigates how the perceived personalization, perceived interactivity, customer experience and major challenges encountered to affect the effectiveness of digitalization towards retailing business.

3.2 Data Collection Methods

Data collection is an indispensable part in the research. It is a procedure for collecting data from various sources and measures it to look for answers to the problem faced in the research. It consists of two data types which are primary and secondary data that are to be collected while conducting the research. In this research, both data are collected and used to conduct it.

3.2.1 Primary Data

Primary data is defined as the initial information obtained by researchers which does not have any previous record or information. Researchers are first time to get the data from respondents for their specific research purpose. This type of data will bring more accurate and up-to-date information to researchers as the information is directly relevant to their research. The data can be collected by interview, questionnaires or observation. In this research, questionnaire collected as a first-hand data. It is an effective method for researcher because it can help to obtain large amount of data in a short time period.

3.2.2 Secondary Data

Secondary data is the data retrieved from previous research with different purpose. It can be collected from Internet, journals and newspapers. The cost of collecting this data will be cheaper than primary data. However, this type of data should be aware as it may decrease the accuracy of data due to outdated information and fail to meet the requirement of research. In this study, most of the information is obtained from journals in Google Scholar and Science Direct.

3.3 Sample Design

3.3.1 Target Population

Target population is a group of individuals whom researchers are interested in generalizing findings from them. The target population of this study is focus on consumer who has experienced in online shopping. The target of this study is any individual of all ages who have experience on the e-commerce platform. This is because they are in a better position to share their experience from online purchasing. In addition, in this digital era, almost everything are performed online where consumers can just simply search from the internet for any information they want. It is advantages for businesses to go to online because it helps businesses to improve in term of marketing and also perceived personalization for consumer.

3.3.2 Sampling Frame and Sampling Location

Sampling frame is a list of component in population from which they may be drawn to involve in the survey (Zikmund et al., 2009). However, none sampling frame is needed because of limited resources to attain it.

Sampling location is the place selected where researchers obtain information to conduct the research. In this study, our sampling location focuses in Klang Valley areas. Klang Valley is chosen because it is the centre of Malaysia where it includes city like Kuala Lumpur and adjoining towns in the Selangor state. There are around 7.2 million people in Klang Valley area, which has more than a fifth of total population in Malaysia (The Malaysian Reserve, 3 April 2017). This population number given more reliability and significant to represented the study. In additional, Klang valley is the most advance region in term of economy and social level because in this region there are various ethnics group, different level of income group and educational (Omar, Nazri, Osman & Ahmad, 2017). Also, the education level is higher in Klang Valley. Majority of respondents are able to read through the questionnaire.

3.3.3 Sampling Elements

Sampling element can be known as a single member in a population (Sekaran, 2003). Hence, the sampling elements in this research are consumers in Klang Valley who got experience in online shopping. This group of respondents will be chosen because they can provide more accurate information than consumers who never online shopping before or bought it for the last ten years and thus deliver their experience knowledge to make it more relevant and precise results for our research.

3.3.4 Sampling Technique

Sampling techniques are split into two major categories which is non-probability and probability sampling. Non-probability sampling is chosen as our sampling technique in this research. Non-probability sampling is defined as the method used in sample selection is based on convenience or personal judgement (Zikmund et al., 2009). The probability of any elements being chosen from target population is unknown (Zikmund et al., 2009). It consists of four types of sampling which are convenience sampling, snowball sampling, quota sampling and, judgement sampling.

Convenience sampling is selected in the study. According to Zikmund et al. (2009), convenience sampling is getting those people who are available conveniently. In this research, we collected data from respondents around Klang Valley who are have time to participate in our research.

3.3.5 Sampling Size

From the Roscoe's research (1975), sample size among 30 to 500 is recommended for most research. It cannot set neither too large nor too small in the research. Researcher can benefit of the central limit theorem if sample size is greater than 30 (Roscoe, 1975). However, researcher will prone to committing Type II errors if too large of the sample size has been set (Sekaran & Bougie, 2013). For this research, 30 sets of questionnaires have been distributed to conduct a pilot test before the actual survey. A figure of 300 sets of questionnaires were given out to targeted respondents after the pilot test was conducted with reliable cronbach alpha level.

3.4 Research Instrument

The tool of research instrument is used to obtain required data. Questionnaire is selected as an instrument in this research due to its low cost and less time consuming than other such as interview and observation. Questionnaire is a fastest way that using lowest cost to obtain primary data compared to interview and observation. Also, it can collect more data as it can reach a big group of respondents. Because of limited resources, questionnaire is a most effective way to help us collect data in this research.

3.4.1 Design of Questionnaire

The questionnaire design is in the form of fixed-alternative questions. The questions given are limited to certain alternative answers and respondents need to choose the closest answers related to themselves. This type of questions requires lesser time consuming and less interviewer skill. Also, respondents are easier to answer as the options are given (Zikmund et al., 2009).

The questionnaire consists of three sections. Before the sections, there a two screening questions for respondent for them to answer because it is easier for us to conduct the research whether the person has online shopping experience before or not. Section A is regarding consumer perceived

personalization, perceived interactivity, customer experience and customer satisfaction with the website. Section B is background information which includes age, gender, working experience, highest education level, monthly income, frequency in online shopping and categories of items purchase from online

3.4.2 Pilot Test

Pilot test is important to test the designed questionnaire before distributing it. A pilot test is a small-scale test of gathering information from respondents who similar as our target respondents in actual survey (Zikmund et al., 2009). This test was conducted as it can help researchers find out any potential problem or mistake of research method and questionnaire (Zikmund et al., 2009). It is used as a guide for researchers to refine survey questions and reduce the risk of flaw of the full study (Zikmund et al., 2009). Cronbach alpha was commonly adopted to test the reliability.

In the research, 30 sets of questionnaires were distributed to Klang Valley area through online for pilot test and have taken 3 days to conduct the test. Furthermore, Statistical Package for Social Sciences (SPSS) software is used to check whether data missing in questionnaire. This is to avoid any questions that did not answered by respondents. However, Cronbach reliability analysis has been used to the pilot test to obtain accurate data.

Table 3.1: Result of Cronbach's Alpha Test for Pilot Test

Construct	No. of items	Cronbach's Alpha Test
Perceived Personalization	5	0.822
Perceived Interactivity	5	0.804
Customer Experience	6	0.879
Customer Satisfaction	4	0.835

Source: Developed for the research

3.5 Construct Measurement

3.5.1 Scale of Measurement

Scale of measurement is to measure the level of accuracy, consistency and stability of items tested in questionnaire and in the form of value or number. Four types of scale measurement commonly used in the research that include nominal, ordinal, interval and ratio scale. Only nominal, ordinal and interval scales are used in the questionnaire.

3.5.1.1 Nominal Scale

In the questionnaire, there are 4 questions in section A, and each question has around 4 to 6 sub questions regarding perceived personalization, perceived interactivity, customer experience and customer satisfaction on online shopping. In additional, section B is regarding some basic background information which including gender, age, working experience, highest education level, monthly income, frequency of respondents visit and purchase from the online websites and items of respondents usually search and purchase from the online websites.

Nominal scale is the most basic level of measurement. It assigns values to an object is only for identification and classification purpose. It is a qualitative and nonmetric scale which does not involve number in the measurement and without raking (Zikmund et al., 2009).

3.5.1.2 Ordinal Scale

Ordinal scale is a qualitative and nonmetric scales which same with nominal. It is a ranking scale that allow things to be arranged in order but the value difference between the ranking is unknown (Zikmund et al., 2009). There are 4 questions in section B are using this scale such as question 2 (age), question 3 working experience, question 4 (education level) and question 5 (monthly income).

3.5.1.3 Interval Scale

Based on (Sekaran et al., 2013), interval scale not only has both ordinal and nominal properties, but it also can measure the magnitude of differences between two ranking values. It is a metric and quantitative scale which involved number in the measurement. It does not have true zero point. All the questions for section A are formed using interval scale. It uses the 5-point Likert scale from 1(strongly disagree, SD) to 5(strongly agree, SA).

3.5.2 Origins of Construct

Table 3.2: Summary of Constructs and Sources

Constructs	Sources
Perceived Personalization	<ul style="list-style-type: none"> Parise, S., Guinan, P. J., & Kafka, R. (2016). Solving the crisis of immediacy: How digital technology can transform the customer experience. <i>Business Horizons</i>, 59(4), 411-420.
Perceived Interactivity	
Customer Experience	
Customer Satisfaction	

Source: Developed for the research

Table 3.2 shows the table of constructs and sources adopted from past journal and is applied in this research (Parise, Guinan, & Kafka, 2016). This journal is about perceived personalization, perceived interactivity, customer experience and customer satisfaction (Parise, Guinan, & Kafka, 2016).

3.6 Data Processing

Data processing was conducted before the data analysis once all distributed questionnaires had been collected. This is to ensure all data collected are of high quality and measurable involve which would be useful when

performing data analysis. The processing steps are data checking, coding, editing, cleaning and transcribing.

3.6.1 Data Checking

Data checking was also known as questionnaire checking. It is to ensure all the questionnaires are filled completely and correctly by the respondents without any missing answers in each of the question.

3.6.2 Data Editing

Data editing involves checking of process and correcting the omissions, legibility, and consistency of data collected from respondents (Zikmund et al., 2009). This is because some respondents may fail to answer single or a few questions, give ambiguous and inconsistent answer that causes data become incomplete and inaccurate. Through this process, researchers able to edit and adjust the data into more complete, readable and consistent before entered into statistical software (Zikmund et al., 2009).

3.6.3 Data Coding

Data coding is a process of classifying and categorizing participants' responses by assigning a number into every answer so that the responses can be entered into database (Sekaran et al., 2013).

In the section A of questionnaire, it is about independent and dependent variable as well as the mediator of the research which are perceived personalization, perceived interactivity, customer experience and customer satisfaction. A five-level Likert scale has been set for each category from 1 being Strongly Disagree (SD), 2 being Disagree (D), 3 being Neither Agree nor Disagree (N), 4 being Agree (A) and lastly 5 being Strongly Agree (SA).

For section B, it is about the background information of the respondents. Respondents are required to select and indicate a “tick” in the appropriate choices provided. For example, the gender question consist of male and female; the age question consists of below 25, range between 25-33, range between 34-44, range between 45-55, 55 and above; the working experience question consists of less than 1 year, range between 1-5 years, 6-10 years, more than 10 years, the education level question consists of primary/secondary, diploma, undergraduate, postgraduate; the individual monthly income consists of below RM1500, range between RM1501- RM3000, range between RM3001-RM4000, above RM4000 and two frequency questions of visit and purchasing of products as well as what type of products from the online websites.

3.6.4 Data Transcribing

Data transcribing is entering all coded data into computer and transcribed into Statistical Package for Social Sciences (SPSS) software for further data analysis.

3.6.5 Data Cleaning

The last stage is data cleaning. It is a process of checking error and verification to make sure the all codes are valid. Statistical Package for Social Sciences (SPSS) is used to check the accuracy of input data and identify the coded data that are out-of-range of the acceptable answers (Zikmund et al., 2009).

3.7 Data Analysis

3.7.1 Descriptive Analysis

Descriptive analysis is a simple way for raw data transformation to describe the basic features such as using measures of central tendency, variability and

distribution (Zikmund et al., 2009). Generally, mean, mode, median, standard deviation, variance and range is the common method that used for descriptive statistics. In this study, frequency distribution and percentage distribution were measured to present the demographic information of respondents, source of information and location for purchasing. It will be shown in histogram, pie and bar chart based on the scale of measurement used. Besides, measure of central tendency (mean) was calculated to display the ranking in the questions which have level of agreement.

3.7.2 Scale Measurement

3.7.2.1 Reliability Test

Reliability test plays an important role in testing the goodness of data. It is to make sure that the measurement are consistent across all the various items in the instrument (internal consistency) and across time (stability) that without bias in measurement (Sekaran et al., 2013). Cronbach's alpha is a famous method used in this test. It displays how fit the variables in a set that are correlated positively to one another (Sekaran et al., 2013). The range for alpha coefficient is shown in table below. From the pilot test undertaken, those respondents are able to understand the questions asked. Therefore the question asked is reliable and valid.

Table 3.3: The Range for Alpha Coefficient

Cronbach Alpha, α	Strength of Association
< 0.6	Poor Reliability
0.6 – 0.7	Fair Reliability
0.7 – 0.8	Good Reliability
0.8 – 0.95	Very Good Reliability

Source: Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2009). *Business research methods* (8thed.). New York: South-Western/Cengage Learning

3.7.3 Inferential Analysis

3.7.3.1 Analysis of variance (ANOVA)

Analysis of variance (ANOVA) is to identify the differences of significant in means more than group of two of the independent variable on an interval or ratio scaled dependent variable (Sekaran, 2003). In this research, ANOVA is used to examine the relationship between perceived personalization, perceived interactivity, customer experience and customer satisfaction. In order to reject the null hypotheses, a high F-statistics result is needed. Therefore, the higher the F-statistics result, the greater the difference of variables.

3.7.3.2 Multiple and Simple Linear Regression Analysis

A multiple linear regression analysis is performed to forecast the values of a dependent variable, Y, with a given set of p explanatory variables (x_1 , x_2 , and x_3). A simple linear regression is performed to estimate the relation between a dependent variable, Y, and a single explanatory variable, x. In this research, the data extracted are beta value which shows how strong each variable influences each other. The higher beta value, the stronger the variables influences each other. Besides that, the T-test value is tested where $P > 0.05$ has a pure mediation effect and $P < 0.05$ has a partial mediation effect (Tranmer et al., 2008). The variation inflation factor (VIF) is to measure the degree of multi-collinearity of the independent and dependent variable. The threshold of the VIF should not exceed 10. Therefore, the lower the VIF, the lower correlation between the variables (O'Brien, 2007). The adjusted R-squared are adjusted number of predictors in the model. The adjusted R-squared increases when the new variables incline positively more than expected by chance. The adjusted R-squared is always lesser than R-squared. The Durbin Watson statistic tests the autocorrelation in the regression analysis. The Durbin-Watson test is always between 0 and 4. A value of 2 shows no autocorrelation in the test.

3.7.3.3 Baron & Kenny Test for Mediation

Mediation shows the impact of an independent variable (X) impacted to a dependent variable (Y) through a third variable known as mediator (M). This strategy is proposed by Baron and Kenny to understand the effect of mediation. Sobel's test has been chosen which allows comparison between the null. The result of $P - \text{Value} > 0.05$ shows a pure mediation whereas $P - \text{Value} < 0.05$ indicates partial mediation (Pardo et.al, 2013).

3.8 Conclusion

This chapter have highlighted the data collection, research design methods, research instruments, sampling design, construct measurements, data processing and data analysis. Quantitative research, descriptive and inferential research were used as research design in this study. Besides, both primary and secondary data were collected to conduct the research. 300 sets of questionnaires were distributed to respondents who had experience purchasing products using the online websites by using convenience sampling. Furthermore, we distributed 30 sets of questionnaires to a small group of respondents for pilot test before actual survey. Statistical Package for Social Sciences (SPSS) software was used to run the data processing. Moreover, descriptive analysis and inferential analysis were discussed in the study. In addition, analysis of variance (ANOVA), T-test, multiple and simple linear regression and mediation test were carried out to examine relationship between variables.

CHAPTER 4: RESEARCH RESULTS

4.0 Introduction

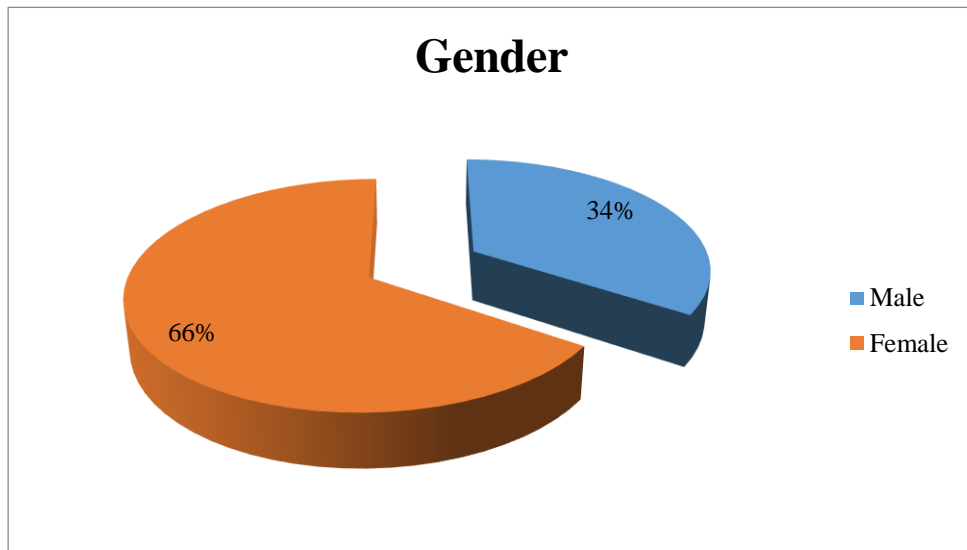
In chapter 3, the research methodology has been performed to collect data and information. Some of the method used are data collection, design of research, sampling design, instrument of research, construct measurement, data analysis and processing of data. This chapter will highlight the result that was obtained from the 300 respondents that has participated in the questionnaire. The data retrieved from the questionnaires were collected and analyzed by using the Statistical Package Social Science (SPSS) Statistics 21 software. Tables and figures are shown to display the results in a clear and readable method. This chapter discuss about the descriptive analysis of background information and inferential analysis with the T-test analysis.

4.1 Descriptive Analysis

In this section, respondent's demographic information was analyzed through frequency analysis. It is inclusive of gender, age, highest education level, monthly income, frequency on visit and purchase from online websites and items purchase from online websites. All the results of the frequency analysis are shown as below.

4.1.1 Gender

Figure 4.1: Gender of Respondents

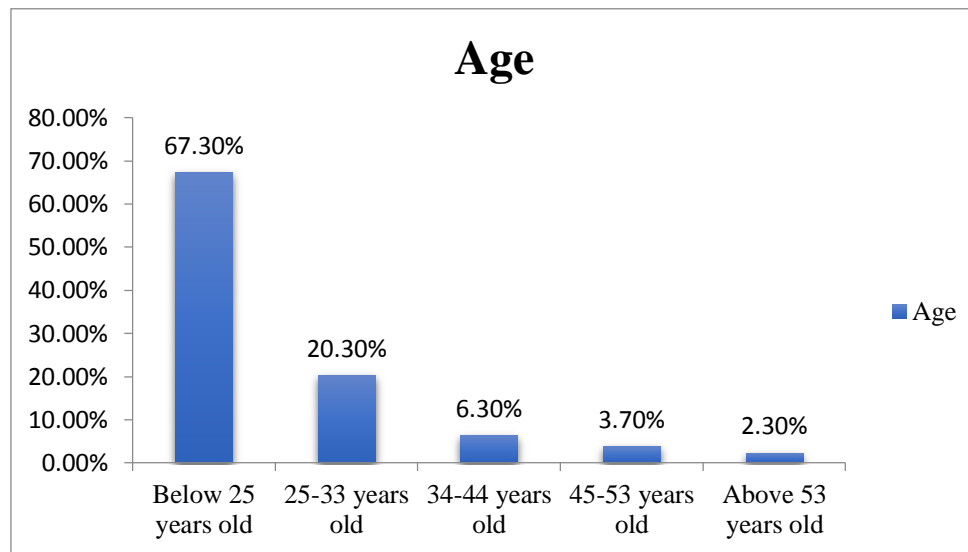


Source: Developed for research

In a total of 300 respondents, among 66% which is 197 of them are females and 34 % which is 103 of them are males.

4.1.2 Age

Figure 4.2: Age of Respondents

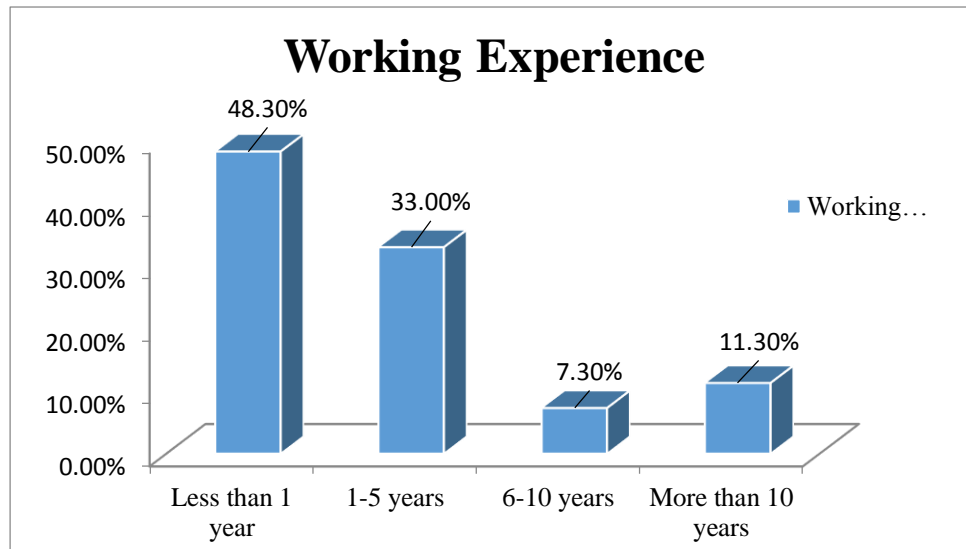


Source: Developed for research

Among 300 respondents, 67.3% which is 202 of them are below 25 years old. Besides, 20.3% which is 61 of them are between age 25 to 33 years old and 6.3% of them are between age 34 - 44 years old. In additional, 3.7% of them are between 45 - 53 years old and only 2.3% of them are above 53 years old which is 7 respondents only.

4.1.3 Working Experience

Figure 4.3: Working Experience

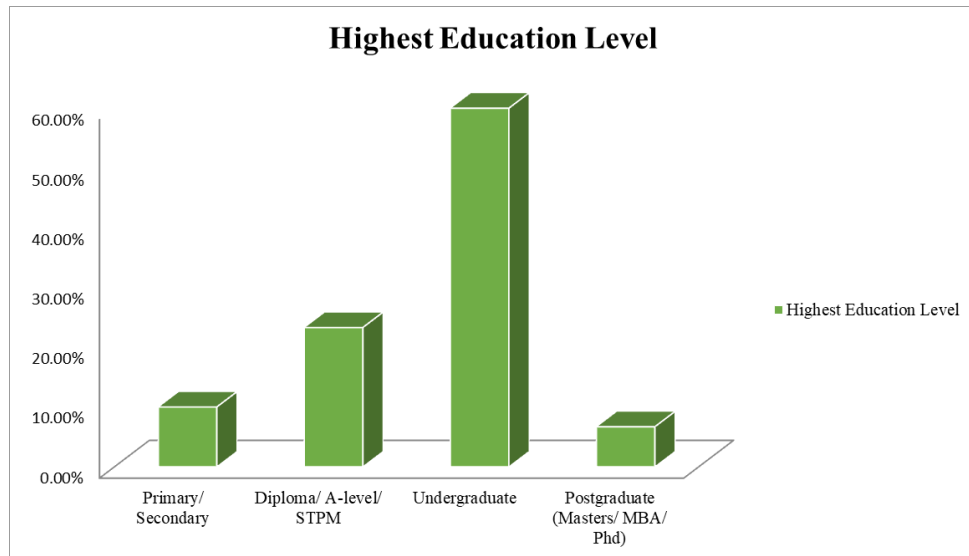


Source: Developed for research

As shown from figure 4.3, almost half of the respondents has less than 1 year of working experiences. Besides, 33% of them have 1 to 5 years working experience. Furthermore, only 7.3% of them have 6 to 10 years working experience. Lastly, 11.3% of them are working more than 10 years.

4.1.4 Highest Education Level

Figure 4.4: Highest Education Level

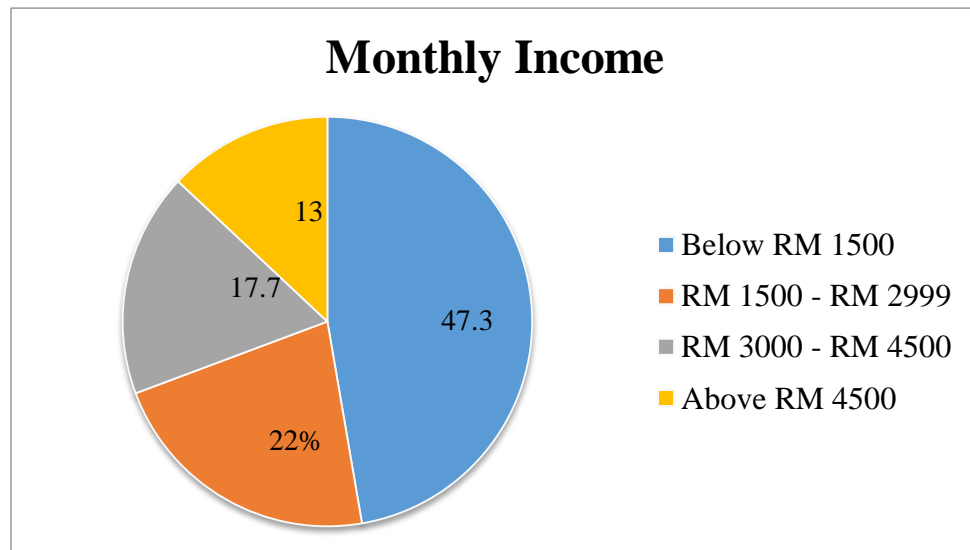


Source: Developed for research

Among all the 300 respondents, 60 % of them are undergraduates and 23.3% are graduated from diploma A-level or STPM. Only 10% of them are graduated from primary or secondary school. Lastly, 6.7% of them are postgraduates which are masters.

4.1.5 Monthly Income

Figure 4.5: Monthly Income

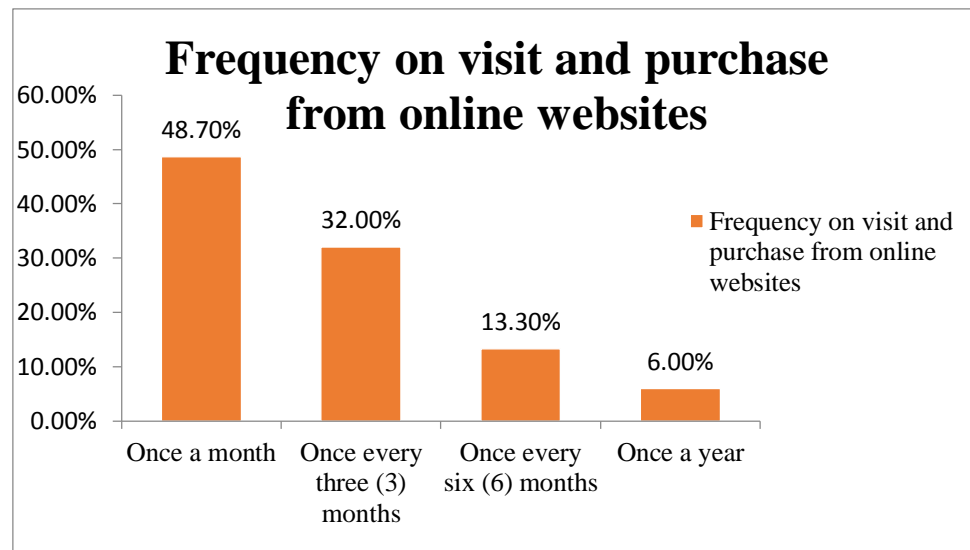


Source: Developed for research

Almost half of respondents are earning below RM1500 per month. Next, monthly income between RM 1500-RM 2999, RM 3000-RM4500 and above RM 4500 share the portion of 22%, 17.7% and, 13% respectively.

4.1.6 Frequency On Visit And Purchase From Online Websites

Figure 4.6: Frequency On Visit And Purchase From Online Websites

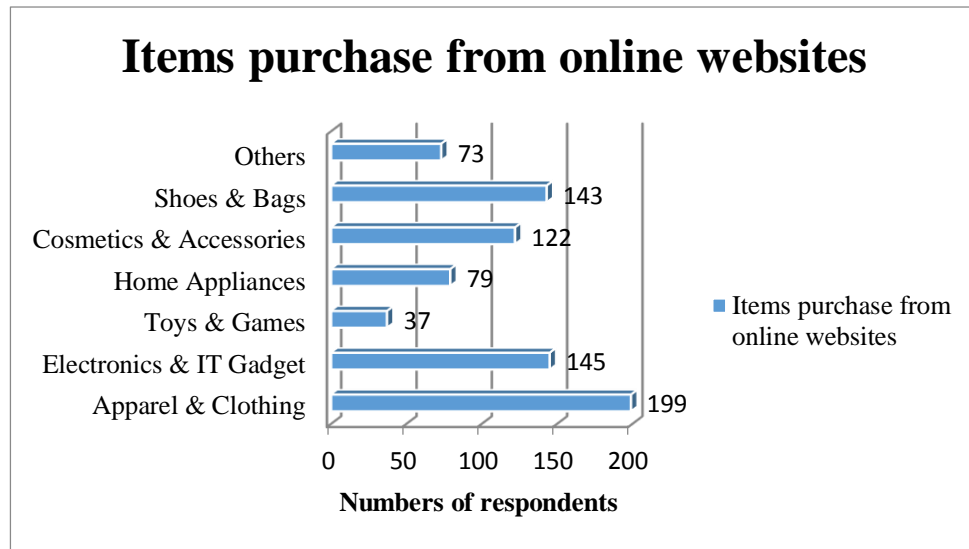


Source: Developed for research

As shown from figure 4.6, almost half of them visit and purchase from online websites at least once a month. 32% of them visit and purchase from online websites once every three months. Next, 13% of them visit and purchase from online websites once every six months and lastly only 6% of them online shopping once a year.

4.1.7 Items Purchase from Online Websites

Figure 4.7 Items Purchase from Online Websites



Source: Developed for research

Apparel & clothing is the top items purchase from online websites with the total number of 199 respondents. Second and third most purchase items are electronics & IT gadget and shoes & bags with 145 and 143 respondent respectively. Among the total number of respondents, 122 of them chose to purchase cosmetics and accessories from online websites. Next, 79 respondents chose to purchase home appliances from online websites. Lastly, 37 of the respondents chose to purchase toys & games whereas 73 respondents decided on the others option than the items mentioned above.

4.2 Central Tendency Measurement of Constructs

Table 4.1 Central Tendency Measurement of Constructs

Variables	Mean	Standard Deviation
Perceived Personalization	3.7127	0.63875
Perceived Interactivity	3.5567	0.63593
Customer Experience	3.9067	0.63629
Customer Satisfaction	3.7767	0.66421

Source: Developed for research

Based on table 4.1, the central tendency measurement of constructs shows the means and standard deviations of the variables. Perceived personalization has a mean of 3.7127 and a standard deviation of 0.63875 whereas perceived interactivity has a mean of 3.5567 and a standard deviation of 0.63593. As for customer experience, the mean is 3.9067 and the standard deviation is 0.63629. Customer satisfactions shows the mean of 3.7767 and the standard deviation of 0.66421.

4.3 Reliability Test

Table 4.2: Result of Cronbach's Alpha Test

Construct	No. of items	Cronbach's Alpha Test
Perceived Personalization	5	0.830
Perceived Interactivity	5	0.748
Customer Experience	6	0.857
Customer Satisfaction	4	0.873

Source: Developed for research

Based on table 4.2, all constructs which consists of perceived personalization, perceived interactivity, customer experience and customer satisfaction has resulted the Cronbach's alpha test of

0.830, 0.748, 0.857 and 0.873 which is categorized between good and very good reliability result for the research. Therefore the questions are reliable and valid for the research.

4.4 Inferential Analysis

4.4.1 Multiple & Simple Linear Regression Test

H1: Perceived personalization has a positive impact on customer experience.

H2: Perceived interactivity has a positive and direct effect on customer experience.

Table 4.3 Model Summary Result of Hypothesis H1 & H2

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	.640 ^a	.409	.405	2.244

a. Predictors: (Constant), Perceived_Interactivity, Perceived_Personalization

b. Dependent Variable: Customer_Experience

Source: Developed for research

Based on table 4.3, the adjusted R Square is 0.405. According to the adjusted R Square, it is shown that 40.5% of customer experience is explained by perceived personalization and perceived interactivity. In addition, the Durbin-Watson value is 2.244.

Table 4.4 ANOVA Result of Hypothesis H1 & H2

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1783.689	2	891.844	102.896	.000 ^b
	Residual	2574.231	297	8.667		
	Total	4357.920	299			

a. Dependent Variable: Customer_Experience

b. Predictors: (Constant), Perceived_Interactivity, Perceived_Personalization

Source: Developed for research

Based on table 4.4, the significant value from the ANOVA table is F-value = 102.896, p-value (0.000) < 0.005. Thus, the model is fit for prediction.

Table 4.5 Multiple Linear Regression Result of Hypothesis H1 & H2

Model	Standardized Coefficients	t	Sig.	Collinearity Statistics	
				Tolerance	VIF
1 (Constant)		7.553	.000		
Perceived_Personalization	.404	6.789	.000	.562	1.781
Perceived_Interactivity	.296	4.974	.000	.562	1.781

a. Dependent Variable: Customer_Experience

Source: Developed for research

Based on table 4.5, the multiple linear regression result of hypothesis 1 and 2 shows perceived personalization ($t = 6.789$) and perceived interactivity ($t = 4.974$), p-value (0.000) < 0.005. The beta value for perceived personalization ($\beta = 0.404$) and perceived interactivity ($\beta = 0.296$). The higher the beta value, the greater the impact between the variables. The variation inflation factor (VIF) for perceived personalization (VIF = 1.781) and perceived interactivity (VIF = 1.781). The lower the VIF, the lower correlation the between the variables. Therefore, there are no multicollinearity issues. Thus, H1 and H2 are supported.

H3: Customer experience has a positive impact on customer satisfaction.

Table 4.6 Model Summary of Hypothesis H3

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	.764 ^a	.583	.582	1.857

a. Predictors: (Constant), Customer_Experience

b. Dependent Variable: Customer_Satisfaction

Source: Developed for research

Based on table 4.6, the significant value from the ANOVA table is F-value = 102.896, p-value (0.000) < 0.005. Thus, the model is fit for prediction.

Table 4.7 ANOVA Result of Hypothesis H3

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1230.744	1	1230.744	416.849	.000 ^b
	Residual	879.842	298	2.952		
	Total	2110.587	299			

a. Dependent Variable: Customer_Satisfaction

b. Predictors: (Constant), Customer_Experience

Source: Developed for research

Based on table 4.7, the significant value from the ANOVA table is F-value = 416.849, p-value (0.000) < 0.005. Thus, the model is fit for prediction.

Table 4.8 Simple Linear Regression Result of Hypothesis H3

Model		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		Beta			Tolerance	VIF
1	(Constant)		4.287	.000		
	Customer_Experience	.764	20.417	.000	1.000	1.000

a. Dependent Variable: Customer_Satisfaction

Source: Developed for research

Based on table 4.8, the simple linear regression result of hypothesis 3 shows customer experience (t = 20.417), p-value (0.000) < 0.005. The beta value for customer experience ($\beta = 0.764$). Thus, H3 is supported.

H4: Perceived personalization has a positive impact on customer satisfaction.

H5: Perceived interactivity has a positive effect on customer satisfaction.

Table 4.9 Model Summary Result of Hypothesis H4 & H5

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	.630 ^a	.397	.393	2.047

a. Predictors: (Constant), Perceived_Interactivity, Perceived_Personalization

b. Dependent Variable: Customer_Satisfaction

Source: Developed for research

Based on table 4.9, the adjusted R Square is 0.393. According to the adjusted R Square, it is shown that 39.3% of customer satisfaction is explained by perceived personalization and perceived interactivity. In addition, the Durbin-Watson value is 2.047.

Table 4.10 ANOVA Result of Hypothesis H4 & H5

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	837.971	2	418.986	97.782	.000 ^b
	Residual	1272.615	297	4.285		
	Total	2110.587	299			

a. Dependent Variable: Customer_Satisfaction

b. Predictors: (Constant), Perceived_Interactivity, Perceived_Personalization

Source: Developed for research

Based on table 4.10, the significant value from the ANOVA table is F-value = 97.782, p-value (0.000) < 0.005. Thus, the model is fit for prediction.

Table 4.11 Multiple Linear Regression Result of Hypothesis H4 & H5

Model	Standardized Coefficients	t	Sig.	Collinearity Statistics	
	Beta			Tolerance	VIF
1 (Constant)		6.154	.000		
Perceived_Personalization	.446	7.422	.000	.562	1.781
Perceived_Interactivity	.239	3.967	.000	.562	1.781

a. Dependent Variable: Customer_Satisfaction

Source: Developed for research

Based on table 4.11, the multiple linear regression result of hypothesis 4 and 5 shows perceived personalization ($t = 7.422$) and perceived interactivity ($t = 3.967$), p-value ($0.000 < 0.005$). The beta value for perceived personalization ($\beta = 0.446$) and perceived interactivity ($\beta = 0.239$). The higher the beta value, the greater the impact between the variables. The variation inflation factor (VIF) for perceived personalization ($VIF = 1.781$) and perceived interactivity ($VIF = 1.781$). The lower the VIF, the lower correlation the between the variables. Therefore, there are no multicollinearity issues. Thus, H4 and H5 are supported.

4.4.2 Mediation Test using Sobel's Test

H6: Perceived personalization mediates the relationship between customer experience and customer satisfaction.

Table 4.12 Coefficient Table of H6

Model	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
				Tolerance	VIF
1 (Constant)		9.704	.000		
Perceived_Personalization	.600	12.949	.000	1.000	1.000

a. Dependent Variable: Customer_Experience

Model	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
				Tolerance	VIF
1 (Constant)		2.105	.036		
Perceived_Personalization	.228	5.078	.000	.640	1.563
Customer_Experience	.627	13.951	.000	.640	1.563

a. Dependent Variable: Customer_Satisfaction

Source: Developed for research

Figure 4.8 Sobel's Test result for perceived personalization with customer experience and customer satisfaction.

Input:		Test statistic:	p-value:
t_a	12.949	Sobel test:	9.4908084
t_b	13.951	Aroian test:	9.47773771
		Goodman test:	9.50393332
Reset all		Calculate	

Source: Developed for research

Based on table 4.12, the results of the test were perceived personalization (t_a) = 12.949, customer experience (t_b) = 13.951 and figure 4.8 result of Sobel test = 9.4908. As the p-value (0.000) < 0.05, it shows that there is

a partial mediation effect between perceived personalization with customer experience and customer satisfaction. Thus, H6 is supported.

H7: Perceived interactivity mediates the relationship between customer experience and customer satisfaction.

Table 4.13 Coefficient Table of H7

Model	Standardized Coefficients	t	Sig.	Collinearity Statistics	
	Beta			Tolerance	VIF
1 (Constant)		10.990	.000		
Perceived_Interactivity	.564	11.778	.000	1.000	1.000

a. Dependent Variable: Customer_Experience

Model	Standardized Coefficients	t	Sig.	Collinearity Statistics	
	Beta			Tolerance	VIF
1 (Constant)		2.721	.007		
Perceived_Interactivity	.152	3.415	.001	.682	1.466
Customer_Experience	.678	15.240	.000	.682	1.466

a. Dependent Variable: Customer_Satisfaction

Source: Developed for research

Figure 4.9 Sobel's Test result for perceived interactivity with customer experience and customer satisfaction.

Input:		Test statistic:	p-value:
t_a	11.778	Sobel test: 9.31927059	0
t_b	15.240	Aroian test: 9.30673555	0
		Goodman test: 9.33185642	0
Reset all		Calculate	

Source: Developed for research

Based on table 4.13, the results of the test were perceived interactivity (t_a) = 11.778, customer experience (t_b) = 15.240 and figure 4.9 result of Sobel test = 9.3192. As the p-value (0.000) < 0.05, it shows that there is

a partial mediation effect between perceived interactivity with customer experience and customer satisfaction. Thus, H7 is supported.

4.5 Conclusion

Chapter four has included the explanation on using the descriptive analysis and inferential analysis to evaluate the data collected. In short, the result of hypotheses one to five have been supported through the findings and analysis which shows each variables has a direct and positive relationship with one another. Hypotheses six and seven has resulted in partial mediation through tests and analysis. Further discussion of the results will be analysis with supporting reasons in chapter five.

CHAPTER 5: DISCUSSION, CONCLUSION & IMPLICATION

5.0 Introduction

In chapter 4, data collected from 300 respondents was analyzed by using the Statistical Package Social Science (SPSS) Statistics 21 software. Furthermore, background information and result are shown in figures and tables. Chapter 3 also discuss about descriptive analysis of background information and inferential analysis with the T-test analysis. In chapter 5, it shows the conclusion for chapter 4 and the research project. It includes the descriptive and inferential summary analysis. Moreover, the results for of crucial discovery and effects of the research will be discuss in this chapter. This chapter will emphasize on the discussion of the results found in chapter 4. The limitations of study and recommendations for future research will also be discuss in this chapter.

5.1 Summary of the Statistical Analysis

5.1.1 Descriptive Analysis

The aim of this research is to identify the effectiveness of digitalization towards retailing business. The background information of respondents are explained using demographic variables such as gender, age, working experience, highest education level, monthly income, frequency on visit and purchase from online websites and items purchase from online websites.

In this research, we have total of 300 respondents, 197 of them are females. Besides, 202 of them are below 25 years old and only 7 of them are above 53 years old. For the working experience, almost half of the respondents are working less than 1 year. In term of highest educational level, 60 % of them are undergraduates and only 6.7% of them are postgraduates which are at Masters.

In term of monthly income, almost half of the respondents earn below RM1500 per month. Only 13% of them have the highest income among them which is above RM 4500. For the frequency on visit and purchase from online websites, almost half of them visit and purchase from online websites at least once a month and only 6% of them online shopping once a year. Apparel & clothing is the top items that the respondents purchase from online websites.

5.2 Discussion of Major Findings

Table 5.1 Summary Result of Hypothesis H1-H7

	Significance Interpretation	T – Value	P – Value	Significant
H1	Perceived personalization has a positive impact on customer experience.	6.789	0.0000	Significant
H2	Perceived interactivity has a positive and direct effect on customer experience.	4.974	0.0000	Significant
H3	Customer experience has a positive impact on customer satisfaction.	20.417	0.0000	Significant
H4	Perceived personalization has a positive impact on customer satisfaction.	7.422	0.0000	Significant
H5	Perceived interactivity has a positive effect on customer satisfaction.	3.967	0.0000	Significant
H6	Customer experience mediates the relationship between perceived personalization and customer satisfaction.	9.49	0.0000	Significant (Partial mediation)
H7	Customer experience mediates the relationship between perceived interactivity and customer satisfaction.	9.319	0.0000	Significant (Partial mediation)

Source: Developed for research

H1: Perceived personalization has a positive impact on customer experience.

Based on table 5.1, t-value = 6.789, p-value < 0.001. There is significant relationship between perceived personalization and customer experience.

A study in China has showed that customers tend to have negative attitude towards public advertising. However, with personalization has shown that it could solve the problem above. Personalization is formed based on customer's daily lifestyle, culture and daily routine which match with their social pattern. Hence, through personalization, the feedback got from the market has increased and reflects positively on company's reputation. Personalization not only enhances customer's experience but also enhance company's reputation at the same time (Xu, 2006).

Furthermore, website personalized to consumers' preference and interest would be perceived favourably by consumers. It creates "a sense of congruence" between the consumers and website interface. Consumers can interact with the website interface. Personalized websites enhance the level of interactivity, relevance and control and thus enhancing the feelings of usefulness and connectedness of consumers. Personalized services determine customer intention to use the services. Subsequently, positive perceptions of personalization would be a main issue that determine consumer attitude towards a service or product (Lee & Cranage, 2011).

H2: Perceived interactivity has a positive and direct effect on customer experience.

Based on table 5.1, $t\text{-value} = 4.974$, $p\text{-value} < 0.001$. There is significant relationship between perceived interactivity and customer experience.

A study shows that interactivity has the potential to be a significant influence in building online relationship. A broader and more complete role and relationship has been stated that as a significant contributor to build up the total shopping experience in internet (Merrilees, & Fry, 2003).

Furthermore, interaction play a very crucial aspect in forming thoughts about services in retailing. Social interaction is one of the main point to ensure the retail quality services and subsequently affecting customer satisfaction. Consumers' feeling towards the store, personal communication and trustworthiness can affect customer experience and thus business should pay attention on social interaction. Interactions among customers and interactions among customer and employee both are important in building good relationship to improve customer experience. For instance, Customer interaction with non-customer interactions such as smart phone application and self-service kiosk can also improve customer experience (Srivastava & Kaul, 2014).

Moreover, consumer interaction on the website will influence customer websites experience. It is very logic that if consumer is comfortable with web features and interface, then they will spend more time on the website, that's mean more interaction with the websites. Many people have experiences in increasing their ability to navigate and understand online website communication as they are expose more and more to the websites. Thus, interactivity on the websites can increase customer experience (Macias, 2003).

H3: Customer experience has a positive impact on customer satisfaction.

Based on table 5.1, $t\text{-value} = 20.417$, $p\text{-value} < 0.001$. There is significant relationship between customer experience and customer satisfaction.

Smart retail technologies influence positively on customer experience to customer satisfaction. Smart retail technologies gain customer satisfaction through customer evaluation and impression on the smart retail technology. A sum of customer experiences on smart retail technologies lead to the formation of customer satisfaction (Roy, Balaji, Sadeque, Nguyen & Melewar, 2017).

Moreover, there are number of attributes that affect the e-retailing satisfaction rate that results from customers' evaluation and impression. Cognitive and affective experiential states are customer experience. Cognitive and affective experiential states forms customer satisfaction through customer experiences. Both cognitive and affective experiential states indirectly influence consumer repurchase intention but both do affect customer satisfaction and indirectly affect consumer repurchase intention (Rose, Clark, Samouel & Hair, 2012).

In early research, customer satisfaction only focus on cognitive processes, however, in recent study, it stated that affective experiential state plays an essential role in customer satisfaction. Sensory experience has been positively influencing on evaluation of product when stimulation of emotion is an essential goal of consumption. Satisfaction means that a customer's judgement that a service or product provides enjoyable level of consumption. Similarly, customer satisfaction and customer affective responses are affected by customer service. Customer's affective experiential state in retailing can be in a form of non-quality dimension of product and service and could impact customer satisfaction level directly or indirectly. This proves sensory, affective and

cognitive experiential state affect customer satisfaction (Srivastava & Kaul, 2014).

H4: Perceived personalization has a positive impact on customer satisfaction.

Based on table 5.1, t-value = 7.422, p-value < 0.001. There is significant relationship between perceived personalization and customer satisfaction.

Firstly, it is very popular that personalization affects customer's service satisfaction. However, these elements are very important when come to evaluating customers' service satisfaction such as courtesy, understanding and personal attention. In short, personalization has a strong effect on customers' service satisfaction (Verhagen, Van Nes, Feldberg, & Van Dolen, 2014).

In terms of e-commerce services, customization and personalization plays a role in customer satisfaction. Few elements involve in this matter includes the ease of use and the website designed and created for the customers. The website should allow the customers to freely scroll around without much hassle in order to ease their search for specific products. In addition, the responsiveness of the page to the customer's queries affects as well. Real time responses are highly encouraged but not all websites are able to response in real time, therefore a duration within six hours response can be noted as efficient as well. When the above are met, customer satisfaction can be achieved as it is catered specifically for different individuals with different needs (Kassim & Abdullah, 2010).

In additional, personalization services make customer feel user friendly and useful and thus increase customer satisfaction. In order to satisfy

customer in long run, enhancing the personalized service to consumer will increase customer satisfaction level towards the firms (Tong, Wong & Lui, 2012).

H5: Perceived interactivity has a positive effect on customer satisfaction.

Based on table 5.1, t-value = 3.967, p-value < 0.001. There is significant relationship between perceived interactivity and customer satisfaction.

Quality interpersonal interaction between customer and employee influences customer satisfaction. Employee's service is very important as it will impact on customer satisfaction. Customer satisfaction is also influence by employee's ability in providing knowledge and credibility of employee. This shows that the interaction between customer and business (Srivastava & Kaul, 2014). For instance, when customer enquire knowledge from online customer service, the ability of online customer service to provide accurate knowledge is very important in affecting customer satisfaction.

Moreover, connectedness indicates to the feeling of an individual connected by sharing of feelings and experiences to others. Connectedness is the feeling of being close to or connected with others and fulfilment of social interaction needs. Therefore, perceived interactivity will lead to consumer satisfaction. If customers can link perceived social interaction needs with their own needs being met, then they will be more satisfied with a certain particular service (Zhao, & Lu, 2012).

Communication could increase a positive impact on customer satisfaction even though the services or products is fails to be delivered to the customer. The better the effectiveness of communication, the lesser

the negative impact on satisfaction. Furthermore, choosing the appropriate modes of communication can improve the level of satisfaction. As more frequent the contact with customer, relationship will be strengthen and this lead to a positive outcome of buyer and seller relationship. Every interactivity component and dimensions seems to have a positive impact with satisfaction (Murphy & Sashi, 2018).

H6: Customer experience mediates the relationship between perceived personalization and customer satisfaction.

Based on table 5.1, $t\text{-value} = 9.49$, $p\text{-value} < 0.001$. There is mediation effect between perceived personalization with customer experience and customer satisfaction.

Customized service is likely to have more consumer satisfaction than standardized service because it gives the most suitable match between customer and product. Customized service can provides consumer the most unique service whereby it provides solutions to each consumer's problem. Consumer who experience customized service is more satisfied with the interaction than those consumer who only receive standardized service. Hence, perceived personalization mediates the relationship between customer experience and customer satisfaction (Coelho & Henseler, 2012).

Online retailers should create customized services to the customers although they used their websites as a medium to communicate with their customers. They should prepare customer representative to monitor the behaviours of online shoppers, and proactively assist them when the customers asked for assistance. Web sites could be customized with interfaces of visitors by using a "personalization software". The software has a self-learning engine to examine the visitors' real-time behaviours.

For example, “what is visitor 334 looking at” and permit the online owners to give similar suggestions to the customers (Jun, Yang, & Kim, 2004). By doing this, it will increase the customer satisfaction.

Besides that, online retailer should emphasize on the online navigation system with well-organized online catalogues, and detailed contents. A well-designed navigational format can enable customers’ thoughts of online manual control and enjoyment. They should aid the customers in queries by providing meaningful information through both online and offline media. Thus, by doing so, customer satisfaction can be achieved as they enjoyed the personalized services and their needs and wants has been met (Jun, Yang, & Kim, 2004).

H7: Customer experience mediates the relationship between perceived interactivity and customer satisfaction.

Based on table 5.1, t-value = 9.319, p-value < 0.001. There is mediation effect between perceived interactivity with customer experience and customer satisfaction.

In a research it stated that customer experience will increase interactivity and will lead to a positive outcome of customer satisfaction. For instance, if a customer is enjoying using technology to have a group discussion, it will positively influence customer satisfaction in the online group chat. Enjoyment indicates what customer experience through the process (Zhao & Lu, 2012).

Social interaction is an important element of customer satisfaction via customer experience. Also, personal interaction is very important during the formation of customer experience. Personal interaction is essential to form customer satisfaction during the process of creating customer experience. Since customer experience is felt psychologically, it occurs in customer’s mind and it gathers all the customer emotions’ of customer’s needs to prompt customer to buy the product. Hence,

customer experience can only help businesses indirectly. Subsequently, customer experience is a connection between social interaction and customer satisfaction (Srivastava & Kaul, 2014).

5.3 Implication of study

5.3.1 Managerial Implications

This research has a number of strengths. Firstly, it focuses on the relationship of perceived personalization, perceived interactivity with customer satisfaction and also explores the role of customer experience in this relationship. Great customer experience helps businesses to gain more sales because consumer return to the same store if they feel satisfied and eventually spend more money.

This research is also very useful for retailers who thinking about venturing into online business. It is very important for business owners to understand about what are consumer needs in this era. Traditional retail businesses have to keep themselves updated to understand and give their best to fulfil consumer needs. Further research have to be done and this study will benefit to the business owners.

In this competitive environment, it is very common that business pay attention on customer satisfaction. In order to achieve customer satisfaction, business owner should have sustainable competitive advantage and enable themselves to be unique so that customer satisfaction can be achieved. Thus, providing excellent customer experience is one of the way to have competitive advantage and to be unique in the market in providing service that competitors wouldn't be able to copy or provide. By enhancing customer satisfaction, it shows how business owner put importance on customers because customers often evaluates their satisfaction level through customer experience.

In term of personalization, manager should allow customers to personalize their websites in their own liking. For instance, whenever a customer clicks “favourite” on a certain product or put it in their shopping cart, the website will automatic filter their favourite product and appear on the home page. This would enable consumer to feel that the website is very user friendly. In term of interactivity, the online website should create a platform and allow consumer to share their online shopping experience. Consumers can freely share their thought about related products, discussion and enquiry on the platform. It enables different consumers to share their shopping experience and even provide suggestion on which product is better in terms of quality and even cost. This would increases interactivity between consumers on the platform provided which also leads to an increase in the online website traffic. The manager’s customer service representative is highly recommended to answer and reply enquiries within 6 hours after the questions have been posted by the consumers. It will allow the consumers to feel that they are valued and it shows that the website has a rapid response towards public’s queries.

5.4 Limitations of the study

Limitation of study are problems and obstacles encountered during this research such as time constraint given for the research, specific target market that are required to be achieved, and the need to ensure every respondents of the questionnaire has online shopping experience in order for the research to be accurate.

There are several limitations of this study whereby it is inclusive of time and resources constraints. The duration given for the research was only six months which is a short period of time. Due to the time constraint provided, the research conducted was only able to cover specific construct and variable such as perceived personalization, perceived interactivity, customer experience and customer satisfaction.

In this time frame, researchers were able to collect data from 300 respondents. As the target population is Malaysian of all ages who have online shopping experiences, the number of respondents who have participated in this research is merely a small fraction of the whole Malaysia population. Moreover, the data was obtained through online survey as the researchers are consisting of full-time students and are not able to travel to other states in order to gather a more accurate information through other methods such as face-to-face interview due to resources constraint. As such, the result that has been gathered in this study gives rise to inaccurate results due to the sample size used, which arises from the time and resources and constraints.

5.5 Recommendation for future research

First and foremost, future researches are highly recommended to extend the time frame of the research to longer periods of time. This would allow the researchers more time to gain the opinions of the respondents through various methods such as survey, face-to face interview and etc. Furthermore, by extending the time frame, it will enable researchers to collect data from a larger pool of respondents, which will provide better and accurate results. The researchers can also use the extended time frame to plan and gather resources to gain further information and knowledge.

Besides that, it is recommended further studies on the e-commerce to be more extensive and to provide more insight for the construct of studies. Researches could get first-hand information and details directly from the retail business owner on their daily business day-to-day work and to understand why some remain and stay in their traditional business instead of pursuing to go online and join the e-commerce platform.

As the future business will be transforming into a digital market place, researches should put in more efforts to understand better on how the digital market work both online and offline in the industry. Customer preference and demands are volatile and changes as time passes, therefore it is

important to understand how customers preference change and what influence them to change from one brand to another.

In addition, future researchers should put in efforts to search for retail owners and have a short interview session with them in order to gain information and feedback regarding their reason in maintaining traditional business in a physical shop or the decision on why they chose to go online. This would enable the research to be more extensive and informative as researchers are able to gain first-hand understanding of the decision and thoughts by the retail owners.

Furthermore, a generation gap comparison for the research would be highly recommended as well because it is clear to see that difference in the generation have different opinion and thoughts of digitalization. For example, the distribution of questionnaire or interviews should be conducted with respondent from generation X, Y and the millennial. The older generation tend to be more conservative because of the lack of IT knowledge in general whereas the younger generation of today has been exposed with gadgets and smartphones and the access to the Internet. There is an obvious different in the generation where the older generation such as X and Y prefer to purchase in the physical store whereas the millennial are used to online shopping and courier services. It would be beneficial to the research if this method would be conducted in order to understand further for the effectiveness of digitalization towards the retailing business.

5.6 Conclusion

The justification of this research is to investigate on the effectiveness of digitalization towards retailing business. The outcome of this research has proved that perceived personalization, perceived interactivity, customer experience and customer satisfaction has positive correlation with one another and it have been proven significant with each other.

In a nutshell, the summary of major findings, statistical analysis, implication of the study, limitation of research and recommendations for future study have been shown and discussed in detail. This study has helped in providing a deeper understanding on the consumers' thought and concerns in purchasing online and the determinants that have been motivating them in having to keep purchasing online. This research has also made contributions to the e-commerce platform and the government.

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APPENDICES

Appendix A: Survey Questionnaire



Universiti Tunku Abdul Rahman

Faculty of Accountancy and Management (FAM)

Bachelor of International Business (HONS)

UKMZ3016 Research Project

Effectiveness of Digitalization towards Retailing Business

Dear Sir/ Madam,

We are final year students currently pursuing Bachelor of International Business (Hons) at Universiti Tunku Abdul Rahman (UTAR), Faculty of Accountancy and Management (FAM). You are invited to take part in a survey on effectiveness of digitalization towards retailing business.

If you are able to be involved in the study, please respond to the attached questionnaire. The questionnaire will take you less than 15 minutes to complete.

Under the Personal Data Protection Act (PDPA) 2010, data from the study will only be used for educational purposes. All the responses will remain anonymous and data to be kept private and confidential.

Thank you for your time and participation in this survey.

I acknowledge that I have read the above description of this evaluation and I agree to participate in this survey.

_____ (Signature)

Research Members:

Name	Student ID
Edward Siew Jun Fung	1507213
Lee Jia Xin	1507030

Screening Questions

Please read and select (✓) the most appropriate response.

1. Have you ever had online shopping experiences?

☐

Yes

☐

No (Thank you for your participation. Kindly return the questionnaire.)

2. Have you ever purchased products from online retailers?

☐

Yes

☐

No (Thank you for your participation. Kindly return the questionnaire.)

Section A:

Kindly circle the most appropriate response.

Strongly Disagree (SD) = 1, Disagree (D) = 2, Neither Agree nor Disagree (N) = 3, Agree (A) = 4, Strongly Agree (SA) = 5

Statement	SD	D	N	A	SA
Perceived Personalisation					
1. I find the website makes me feel recognized as a customer.	1	2	3	4	5
2. I find the website page easy to customize to my own liking.	1	2	3	4	5
3. I find the website understands my specific needs.	1	2	3	4	5
4. I find the websites stores all my preferences & offer me services based on my preferences.	1	2	3	4	5
5. I find the websites does a good job suggesting things that I might want.	1	2	3	4	5

Strongly Disagree (SD) = 1, Disagree (D) = 2, Neither Agree nor Disagree (N) = 3, Agree (A) = 3, Strongly Agree (SA) = 5

Statement	SD	D	N	A	SA
Perceived Interactivity					
1. I find the websites are usually fast & loads quickly.	1	2	3	4	5
2. I find the websites has little waiting time between my actions & the response.	1	2	3	4	5
3. I find the websites allow me to update my own contents.	1	2	3	4	5
4. I find the websites allow me to create my content to my own liking.	1	2	3	4	5
5. I find the websites is suggestive and provide assistance easily when needed.	1	2	3	4	5

Strongly Disagree (SD) = 1, Disagree (D) = 2, Neither Agree nor Disagree (N) = 3, Agree (A) = 4, Strongly Agree (SA) = 5

Statement	SD	D	N	A	SA
Customer Experience					
1. I had an overall good experience of using the online websites.	1	2	3	4	5
2. I have no trouble in using the online websites for searching or purchasing products.	1	2	3	4	5
3. I find it convenient to use online websites for searching or purchasing products.	1	2	3	4	5
4. I manage to save a lot of time by using the online websites.	1	2	3	4	5
5. I am able to compare other products before deciding to purchase it.	1	2	3	4	5
6. I will repurchase from the same websites.	1	2	3	4	5

Strongly Disagree (SD) = 1, Disagree (D) = 2, Neither Agree nor Disagree (N) = 3, Agree (A) = 4, Strongly Agree (SA) = 5

Statement	SD	D	N	A	SA
Customer Satisfaction					
1. I am satisfied with my overall experiences of using the online websites.	1	2	3	4	5
2. I am satisfied with the pre-purchase experience of the online websites (e.g., consumer education, product search, product information displayed, etc.).	1	2	3	4	5
3. I am satisfied with the purchase experience of the online websites (e.g., ordering, payment procedure).	1	2	3	4	5
4. I am satisfied with the post-purchase experience of the online websites (e.g., customer support, delivery, after sales services).	1	2	3	4	5

Section B: Background Information

Please read and select (✓) the most appropriate response.

(1) Gender:

☐ Male

☐ Female

(2) Age:

☐ Below 25

25- ☐ 33

☐

34- ☐ 44

☐

45-53

Above 53

(3) Working experience:

☐ Less than 1 year

☐ 1-5 years

☐ 6-10 years

☐

More than 10 years

(4) Highest education level:

- ☐ Primary/Secondary
- ☐ Diploma/ A-Level/ STPM
- ☐ Undergraduate
- ☐ Postgraduate (Master/MBA/ Phd)

(5) Monthly income:

- ☐ Below RM 1500
- ☐ RM 1500 - RM 2999
- ☐ RM 3000 - RM 4500
- ☐ Above RM 4500

(6) How frequent do you visit and purchase from the online websites?

- ☐ Once a month
- ☐ Once every three (3) months
- ☐ Once every six (6) months
- Once a year

(7) What category of items do you usually search and purchase from the online websites? (You may choose more than one).

☐

Apparel & Clothing

☐☐

Electronics & IT Gadgets

☐

Toys & Games

☐

Home Appliances

Cosmetics & Accessories

Shoes

☐

& Bags

☐

Others: _____

Thank you for your time and kind participation.