EXPLORING THE DRIVERS OF ONLINE PURCHASE INTENTIONS: ENHANCING CUSTOMER ACQUISITION IN E-COMMERCE

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ABSTRACT

The COVID-19 pandemic created an enormous opportunity for exponential growth for online retail, but it is weighed down by very low conversion and high cart abandonment rate. This study aims to offer tested models of technology acceptance, influencers of behaviour and immersive experience that drive individuals' purchase intention in an online shopping environment. It is believed that intention is the best predictor of actual behaviour. High purchase intent would translate to purchase behaviour improving conversion rate. It is approached with an integrated view from multiple customer-focused perspectives, from an attitudinal, behavioural, and experiential perspective. This research combines three seminal theories; Fred Davis' Technology Acceptance Model (TAM), Icek Azjen's Theory of Planned Behaviour (TPB) and Csikszentmihalyi's concept of Flow experience, the mediating role of attitude towards online shopping and the moderating role of past purchase experience to explain triggers of purchase intention. Empirical studies on the key determinants of online purchase intent viewed from these different perspectives are reported. Fieldwork was done in July to September 2021 while the COVID-19 pandemic was still lingering. Based on convenience sampling, a total of 601 self-administered electronic surveys and physical survey forms were collected from adults aged 18 years and above who were active online shoppers. SPSS AMOS structural equation modelling was used to test the research model. This study revealed that perceived usefulness, perceived ease of use, perceived behavioural control and Flow are variables that positively influence consumers' purchase intention, but it is not the case for both subjective norm and attitude. This anomaly could be due to the impact of the pandemic, contrary to the hypotheses outlined in well-established behavioural theories as consumers avoid crowds but still need to fulfil their most basic needs. Attitude towards

online shopping was found to play a significant role on purchase intention through the mediating relationships while past purchase experience is a non-significant moderator for the relationships between Flow and attitude on purchase intention. To the business owners and e-commerce practitioners, this research is hoped to provide insights to better understand customers' intention and behaviour to design strategies and tactics that lead to completion of online transactions and improve sales conversion.

Keywords – online shopping, purchase intention, TPB, TAM, Flow

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CHAPTER 1: BACKGROUND TO THE STUDY

1.1 Introduction

Jack Ma, the visionary co-founder and former executive chairman of Alibaba Group at the 2018 World Economic Forum said, "My belief is that e-commerce is the future." He added that, "We will enable every young people, every small business to buy globally, sell globally, and deliver globally and pay globally…. This is the trend. Nobody can stop it." (China, 2018). His vision was turbo-charged when COVID-19 pandemic hit the world in 2020. It accelerated the digital transformation of retail, restaurants, and education industries across all levels as businesses need to continue their activities during and after the lockdown, in the new normal (Soto-Acosta, 2020). The COVID-19 pandemic has thus far caused an unprecedented shift in the way people live, work and play, basically altering what is "normal" to everyone around the world (Yan, 2020; Ellison et al., 2021). As consumers today are comfortable with the use of the internet and interactive experiences online, they are now expecting more authentic digital interactions whether it is dating or shopping (Euromonitor, 2019). With high internet penetration, coupled with innovation, technology advancement and growing consumer income, the world has witnessed immense growth in the e-commerce industry in the last 10 years (Raman, 2019). E-commerce sales growth peaked in the year 2020 at 25.7% and continue to grow at 16.8% in 2021 (Coppola, 2022).

Shopping offline or online is a process of browsing and purchasing of products or services in exchange for money. Online shopping in particular, involves the process of searching for product information, processing, and incorporating information to evaluate product options and sometimes, hopefully it ends with a transaction, the act of an actual purchase. Online shopping can be perceived as a utilitarian or functional activity. It can also be a hedonistic or leisure activity (Rose & Dhandayudham, 2014) depending on the need and objective for browsing from one online store to another. With the dynamics of

innovation in online retail, the internet has become a platform that continues to evolve the way consumers shop.

Today, it is hard to find a retailer that does not have digital presence in one form or another selling directly or indirectly to end consumers. Retailers simply cannot ignore the advantages that online channels have to offer, comparable low-cost characteristics; low investment cost and maintenance cost (Klaus & Nguyen, 2013; Pandey et al., 2015). It is more convenient for consumers to buy the things they need online than from the traditional marketplace (Pandey et al., 2015). Customers are able to view the richness of product details and evaluate prices from multiple outlets, reviews and enjoy delivery facilities via internet in the comfort of their own homes, avoiding crowds, queues or searching for limited parking space at busy shopping malls (Ahmad et al., 2010; Park & Kim, 2003; Suki, 2013). Besides the convenience, online shopping saves time as the entire process can be done from wherever they are; home or workplace (Angus & Westbrook, 2019; Thakur & Srivastava, 2015). In addition, with the COVID-19 pandemic, on and off movement controls, social distancing, and multiple lockdowns, late adopters who have been unwilling to learn the new ways of shopping were prompted to shop online for the first time as there was no alternative (R. Y. Kim, 2020b; Bhatti, 2020; Hasanat et al., 2020).

The technology platform used for online shopping provides unique features not found in offline shopping like interactivity, flow and navigation, personalised actions, and keyword searches. Online shopping enhances and expands the shopping experience and freedom in selecting products and services that consumers want. These features are found to increase customer loyalty towards retailers (Clemes et al., 2014; Bridges & Florsheim, 2008; Park & Kim, 2003; Srinivasan et al., 2002). The more prevalent shift and increase of power from business to consumer compared to traditional channels (Hoffman &

Novak, 1996) created the biggest challenge for e-commerce practitioners to acquire online customers in a complicated and constantly evolving environment.

1.2 Overview of the e-Commerce Industry

Online shopping offers consumers the convenience, hassle-free experience, anytime and from anywhere that they want (Angus & Westbrook, 2019). Lockdowns and social distancing rulings during COVID-19 pandemic have disrupted the consumer behaviour in shopping and buying. There were also apparent new habits emerged due to technology innovations and advances that consumers quickly learned to cope with (Sheth, 2020). Revenue of global e-commerce in 2021 was US$5.2 trillion, touched US$5.7 trillion in 2022 and forecasted to achieve US$8.1 trillion by 2026. In 2022, countries where the largest e-commerce contribution to total retail sales is led by China where half of its retail sales comes from online, followed by the United Kingdom (36%) and South Korea (32%). Due to COVID-19 in 2020 and 2021, consumers avoided the physical stores and online sales as a percentage to total retail sales surged to 17.8% and 18.8% respectively compared to only 13.8% pre-COVID year in 2019 (Statista, 2022). Consumers appeared to embrace online shopping rather quickly despite feeling uncertain (Pham et al., 2020). Online searches suggested that the significant increase in online sales especially for groceries is driven by the general perception and fear of the virus (Baarsma & Groenewegen, 2021). To summarise, Table 1.1 states the relevant data for global e-commerce industry.

Table 1.1

Status of E-commerce Industry

	Key Information (base year 2022)
Global Market Size	US$5.7 trillion (Statista, 2022)
Growth Rate	10.4% in 2023 (Baluch, 2023)
Top Selling Product Categories	Electronics (US$1trillion), Fashion and Accessories (US$1trillion), Furniture and Home Furnishings (US$493billion), Food (US$432 billion), Toys, Hobby & DIY (US$432 billion) (Statista, 2022)
E-commerce Sales Revenue by Region	Asia (US$1.7 trillion), US (US$1.0 trillion), Europe (US$567 million), Australia and Oceania (US$41million), Africa (US$32 million) (Statista, 2022)

The exponential growth of online shopping embodies the switch in power between retailers and their customers. In order to survive in the long run, e-retailers must constantly innovate, streamline, and aestheticize their offerings while pricing down (Euromonitor, 2019). In addition to being spoilt for choice on what they want to buy, at whatever time they want, consumers have the rights to choose or reject any product from wherever they are (Balasudarsun et al., 2018). In the words of Dean Kamen, inventor of the famous Segway transporter, "Technology is easy to develop. Developing a new attitude, moving the culture, is the difficult part" (Kamen, 2010). Consumers and retailers who are able integrate new technology into their business and their lives respectively faster than others will stand to gain more. It is projected that by 2026, online sales will make up to almost a quarter of total retail sales worldwide (Statista, 2022).

E-commerce is made more accessible with the rise of smartphone penetration to 55% globally; as high as 88% in developed countries like Germany, in the United Kingdom 86% and in the USA 82%. The biggest e-commerce market in the world in 2020

is led by China that makes up 47% of global e-commerce revenue, followed by 19% from the USA and 16% from Europe. Due to COVID-19 pandemic in 2020, consumers avoided the physical stores and e-commerce sales surged by 19% compared to pre-COVID year in 2019. Biggest gainer was the food and personal care that jumped 29% mainly contributed by sales of groceries and hygiene products. With prolonged lockdown, the segment toys, hobby and DIY was the second biggest winner at a growth of 21% (Statista, 2022). Nonetheless, shopping experience in a brick-and-mortar store remains appealing. It is reported in the United States of America in January 2021, physical stores still make up 79% of total retail sales in 2020 despite the restricted movement due to the COVID-19 pandemic accelerating e-commerce growth (Ali, 2021). However, with the simplicity and speed of online shopping and understanding of attitudes and behaviours that trigger an online purchase, e-retailers will continue to benefit from this sales channel, optimizing conversion rate, converting browsers to buyers better.

The global e-commerce industry continues to experience rapid growth with no signs of slowing down. Some notable e-commerce trends in 2023 include increased use of data labelling for machine learning to personalise and enhance customers' overall online shopping experience. This is crucial to increase online sales and to sustain e-commerce success. Social commerce and omnichannel shopping are increasingly crucial and expected to rise, with social media platforms increasingly becoming a key sales channel with shoppable posts and in-app purchase, and consumers expecting seamless shopping experience across all channels. It is crucial to have an online channel as part of the integrated purchase experience (Gibbons, 2022). Overall, the e-commerce industry is dynamic and rapidly evolving, driven by change in consumer behaviours and technology advancement. The e-commerce business owners and marketers should adapt to these changes and poised for continued growth.

1.3 Research Background

Marketers are challenged by limited means to attract, retain, and fulfil customers' needs and achieve customer satisfaction through their e-commerce platforms (Jublee & Balamurugan, 2016). An online customer is not simply a shopper but also an information technology user. Online shopping behaviour is a highly complex and complicated social phenomenon that involves multiple interdependent factors to form the purchase decision beyond the traditional marketing elements (Constantinides, 2004). It is also constantly under-developed with continuous and rapid technology advances and evolving social environment, especially so with the disruption from the global COVID-19 pandemic in 2020. Online shopping is expected to grow rapidly as consumers increasingly value the ease and convenience of online shopping over the experience of a physical store (Rubin et al., 2020). However, to realise the full potential and maximise growth of online shopping, the subject intrigued both academicians and practitioners to learn the factors influencing consumers' intention to buy. Despite its impressive growth, efforts to lead customers to the check-out button has proven to be a difficult task (Rubin et al., 2020; Tang & Lin, 2019). As technology becomes more sophisticated and accessible, customers have more choices than ever before. COVID-19 pandemic gave rise to both health fears and economic uncertainty causing the change in consumer consumption behaviour and preferences (Eger et al., 2021; Grashuis et al., 2020; Mehta et al., 2020). Hence, in order to acquire online customers, there is the urgency to understand what factors influence online purchase intention in the current new environment.

It is reported 81% of consumers do some form of online research before making an online purchase. A high level of search activity is the key reason why people shop online instead of in a physical store, and it should by right lead to a high level of online purchase (Law, 2019), but somehow, that is not the case. Report shows that worldwide cart

abandonment or customers who abandoned their digital carts without completing their purchase was as high as 70% at the end of 2021, highest since 2014 at 68% (Pasquali, 2022). This figure has been increasing in recent years, proving that those online retailers face difficulty in converting customers. Online conversion rate refers to the number of consumers who made an actual purchase, out of the total number who visit the online store. This rate remains extremely low. In Quarter 2, 2022, online conversion rate worldwide stood at less than 2.0%, a drop from 3.0% same time in Quarter 2, 2018 (Kibo, 2022). A big disparity from the 22.5% average conversion rate at brick-and-mortar stores (Ifhar, 2020). Table 1.2 summarises the relevant data for research background.

Table 1.2

Relevant Data for Research Background

Highlights	Source
81% of consumers do some form of online research before making an online purchase.	Law (2019)
Report shows that worldwide cart abandonment as high as 70% at the end of 2021, highest since 2014 at 68%.	Pasquali (2022)
Online conversion rate worldwide stood at less than 2.0% in Quarter 2, 2022, a drop from 3.0% same time in Quarter 2, 2018.	Kibo (2022)
Average conversion rate at brick-and-mortar stores is 22.5%.	Ifhar (2020)

This study examines the key drivers to online purchase intention. Intention is the key predictor to actual behaviour. Purchase intention is the pre-purchase stage that motivates customer behaviour to make an actual purchase (Peña-García et al., 2020;

Armitage and Conner, 2001). The study of consumer online behaviour will help to drive the success of online business by understanding attitudes, considerations and other internal value factors that form purchase intent. Purchase intention is the extent that customers are willing to make a purchase at the online store (Peña-García et al., 2020; Pavlou, 2003; Ajzen, 1991). Table 1.3 listed out some of the supporting theories commonly used to study online purchase intention which includes the Theory of Planned Behaviour (TPB), the Technology Acceptance Model (TAM), Flow Theory, the Unified Theory of Acceptance and the Use of Technology UTAUT) and from the perspective of hedonic and utilitarian motivations.

Table 1.3

Supporting Theories for the Study of Online Purchase Intention

Theory	Description
Theory of Planned Behaviour (TPB)	The Theory of Planned Behaviour posits that behavioural intention determines actual behaviour, and that intention is influenced by attitude, subjective norm, and perceived behavioural control (Ajzen, 1991)
Technology Acceptance Model (TAM)	The Technology Acceptance Model is a theory of human behaviour that attempts to explain the attitudes and beliefs drives an individual's intention to use a new technology. It is influenced by two key factors; perceived usefulness and perceived ease of use, which in turn influence user intention (Davis,1989).
Flow Theory	Flow theory or concept explained that people are most motivated when they are engaged in activities that are challenging but achievable. Flow theory has been used to explain online purchase intention by suggesting that customers are more likely to purchase products when they are are totally immersed in the online activities and in a state of Flow (Nakamura & Csikszentmihalyi, 2014)

Unified Theory of Acceptance and Use of Technology (UTAUT)	The Unified Theory of Acceptance and Use of Technology is a unified theory of technology acceptance that integrates the Technology Acceptance Model and other theories to explain the factors that influence user acceptance of technology. The theory posits that four key factors influencing user intention are performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003).
Hedonic and utilitarian motivations	Hedonic motivations are motivations that are driven by pleasure, enjoyment, or fun. Utilitarian motivations are motivations that are driven by practicality or usefulness. Both hedonic and utilitarian motivations can influence online purchase intention (Babin & Darden, 1994).

Multiple approaches and theories have been explored to determine key drivers of purchase intention, from pre-purchase intention model namely the intention of search (Ramkumar & Jin, 2019; Kim et al., 2004; Shim et al., 2001) where the internet user intend to search for information was noted to be the best predictor of online purchase intention to psychological perspective through cognitive or affective processes (Chang et al., 2016; Coley, 2003; Martin et al., 2015; Pappas et al., 2016). From hedonic and utilitarian motivations perspective (Hyun et al., 2021; Barta et al., 2021; Kumar & Kashyap, 2018; Prashar et al., 2017; Tamana et al., 2019; Wong et al., 2018) to basic features like technology and trust (Rehman et al., 2019; Van der Heijden et al., 2003). From e-service quality (Juwaini et al., 2022; Rita et al., 2019; Kuo, 2003; Lee & Lin, 2005) where dimensions like website interface, whether it is reliable, responsive and if it can be trusted, to the emotions of feeling bored, having bored-state-of-mind as a variable to have been linked to purchase behaviour (Sundström et al., 2019) and also study of Flow experience in driving intention (Hyun et al., 2021; Sharif & Naghavi, 2021; Chen et al., 2018; Hsu et al., 2012; Mahnke et al., 2015; Nakamura & Csikszentmihalyi, 2014)

where it is said that optimizing customer's engagement is likely to increase willingness and confidence to buy a product or use a service (Hsu et al., 2012).

The Theory of Planned Behaviour (TPB) (Ajzen, 1991) and the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) suggest that behavioural intention is a strong indicator of actual behaviour. Whether an individual will engage in a behaviour, it is highly dependent on their intention to do so. Studies that are closer to understand online purchase intent factors affecting online sales are La Barbera and Ajzen (2021), Moon et al. (2021), Agag et al. (2019) and Limayem et al. (2000) based on the Theory of Planned Behaviour found that behavioural control and intentions significantly influence online purchase. López-Bonilla et al. (2021), Peña-García et al. (2020), Fedorko et al. (2018) and Panda and Swar (2013) who studied factors that influence purchase decision in the virtual world, borrowing scales from the Theory of Planned Behaviour and the Technology Acceptance Model revealed that perceived ease of use and perceived usefulness are the key drivers to making an online purchase while others attempt to predict an online purchase come in the form of continuance, intention to return or repeat purchase (Wu & Song, 2021; Cheng & Yap, 2013; Martin et al., 2015; Ahmad et al., 2010).

From other perspectives, Barari et al. (2020), and Lin and Lekhawipat (2014) found that online purchase intention increases with shopping experience that led to satisfaction, shopping habit and adjusted expectation. Akram (2018) investigated how shopping benefits like convenience, control, variety and enjoyment, Shukla et al. (2021) looked at perceived personalisation and Martin et al. (2015) examined antecedents for cognitive and affective experience like risk, trust and satisfaction that drive purchase intentions. In the last 2 years, there is a whole new wave of studies on the impact of social isolations and health fears due to the COVID-19 pandemic and their effect on consumers online purchase intention (Soares et al., 2022; Erjavec & Manfreda, 2022; Ellison et al.,

2021; Aryani et al., 2021; Baarsma & Groenewegen, 2021; Moon et al., 2021; Prasetyo et al., 2021; Grashuis et al., 2020; Koch et al., 2020).

The process of online shopping involves multiple stages of decision-making which include consumption problem, search for information, evaluation, comparison and selection of products or services to purchase, post-purchase experience and finally, disposing of the product (Nguyen et al., 2018; Darley et al., 2010, Van der Heijden et al. 2003). Online shopping is clearly a heterogeneous behaviour and yet, it is not tied to any unified conceptual or empirical research. Online shopping is a complex and multifaceted behaviour, involving a wide range of factors, such as individual preferences, cultural values, technological capabilities, and market dynamics. Over and above that, consumer behaviour and preference are constantly evolving as new technologies emerge. It is no surprise that it is difficult to develop a unified conceptual or empirical research framework that can fully capture the diversity and complexity of online shopping behaviour.

Deeper understanding of online shopping behaviour will benefit those who market and sell products online, as a reference for online shopping behaviour, integrating attitude towards adoption, intention, and continuance (Peña-García et al., 2020; Sharif & Naghavi, 2021; Agag et al., 2019; Chang et al., 2005). It is unclear if the online sales conversion rate can be improved, or cart abandonment can be reduced in the long run. It begs the need to examine what factors influence the attitude and behaviour triggering purchase intention. A framework that is focused on customer internal factors is needed to organise the intricate psychological system, to comprehensively understand consumers' attitude towards online shopping and which factors significantly influence purchase intention (Erjavec & Manfreda, 2022; Vahdat et al., 2020; Koch et al., 2020).

1.4 Problem Statement and Research Gap

Human behaviour is a moving target. Some social scientists argued that there is a need for new theories of human behaviour for every generation (Parasuraman & Zinkhan, 2002) making it even harder for researchers as technology advances cause behaviour patterns to change rapidly. In a similar vein, the proliferation of e-commerce in our daily lives is immutable. It has reshaped the retail landscape across all industries. As of 10 March 2023, the COVID-19 pandemic has affected more than 676 million people globally (COVID-19, 2023). The crisis has triggered economical and societal changes that would likely to cause consumers behaviours and structures to change as well (Koch et al., 2020).

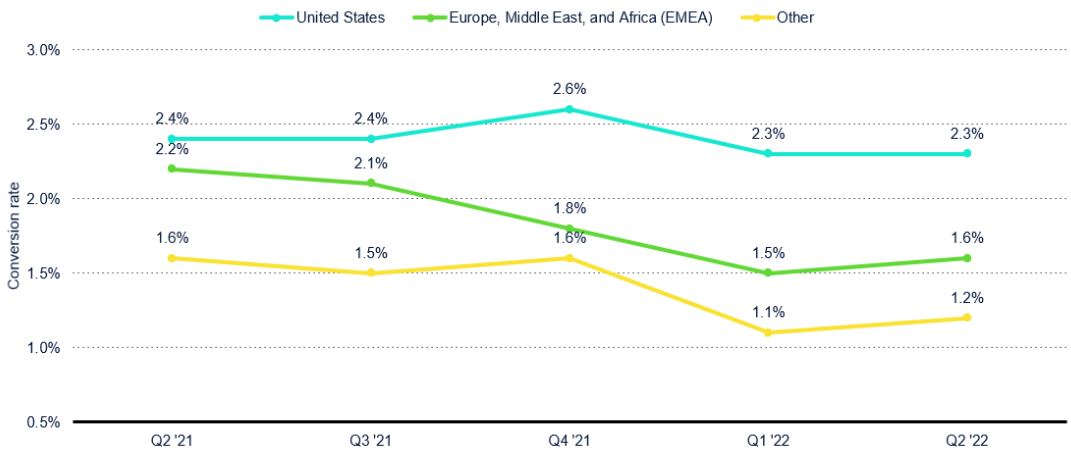
For online businesses and even more so for retailers, this disruption presents both an opportunity and a challenge. E-commerce is poised for exponential growth as consumers are open to switch to online channels for their essential needs (Aryani et al., 2021). This has created a much fiercer competitive e-commerce environment where companies must be a lot more innovative to enhance their offerings and value proposition, improving their approach to acquire customers. From continuously engaging and converting customers, to retain them and build loyalty. For any online shopper, the next store is literally just a click away.

Fundamentally, the problem statements that motivated this study are the present lack of success faced by e-commerce in attracting transacting customers (Saleem et al., 2019; Rano & Sungkur, 2019; Mummanaleni, 2005) alluding to extremely low online store conversion rate and high cart abandonment rate. Despite the impressive online retail growth figures, low conversion rate has long been a serious issue for online retailers (Rano & Sungkur, 2019). A successful online sales conversion is counted only when a customer selects products, places them in the digital shopping cart and make the payment transaction to complete the checkout process. It is the most important metric to online business owners as higher conversions directly translate to higher sales (Saleem et al.,

2019). Latest data shows the global conversion rate of an online browser turning into a buyer at an e-commerce site stands at a mere 2% to 5%, and at a median rate of 2.4%. Research done amongst companies with Google ads account revealed that 25% of them have less than 1% conversion rate (Kim, 2020a). As of Quarter 2, 2022, online shoppers' average conversion rate worldwide was at less than 2.0% (Kibo, 2022). Refer to Figure 1.1

Figure 1.1

Online Shoppers Conversion Remains Low Worldwide As At Quarter 2, 2022



As a comparison, the conversion rate of a physical store was at an average of 22.5% (Ifhar, 2020). It was converting10 times better than online stores. Every 100 customers who visit an online store, more than 98 of them will move to another online store or web page without making a purchase. While the context of offline and online stores is different, comparing the two channels can be fair considering consumers still have the option to visit offline stores at the point when the research was conducted. This does not negate the fact that conversion rate of online stores is very low on its own given

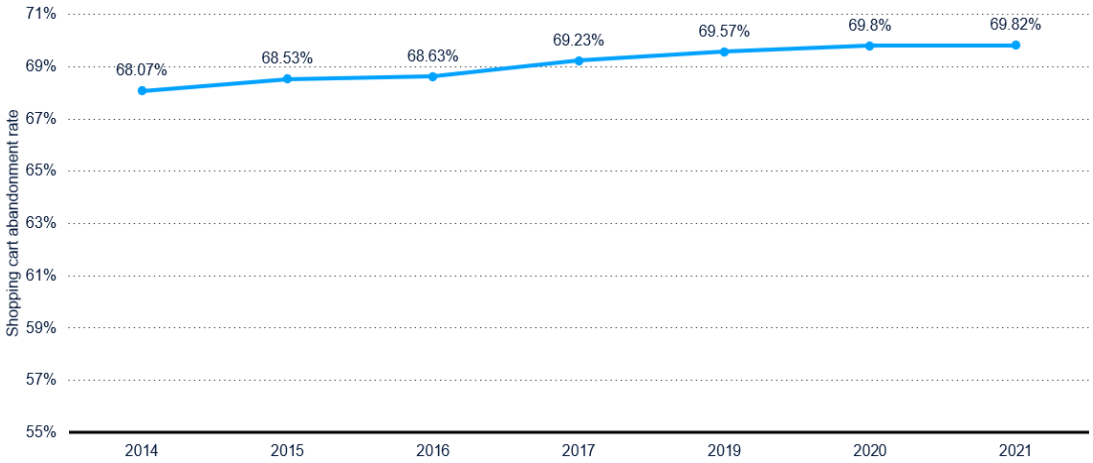
the sheer volume of e-commerce sites that exist and the ease which customers can move through multiple sites (Rano & Sungkur, 2019). Updated data has shown that the average conversion rate of e-commerce sites across all selected sectors by the end of 2022 has improved to 2.5% (Salesforce Research, 2023). Despite the research fieldwork is mainly done in Malaysia, the researcher would like to point out that there is no reliable statistics for online conversion rates nor shopping cart abandonment rates for Malaysia specifically, hence global benchmarks are used.

Despite the exponential growth and optimistic outlook, online customers with intention to buy for some reasons, often do not conclude the transaction process. Shopping cart abandonment refers to when a customer places items into an online shopping cart but later decides not to proceed with the purchase of any of the items during that online shopping session (Tang & Lin, 2019; Egeln & Joseph, 2012; Ahmad et al., 2010). Online retailers continuously suffer from the tremendous loss caused by shopping cart abandonment.

Figure 1.2 shows that in Quarter 4, 2021, 70% of digital shopping carts were abandoned and the transactions were not completed (Pasquali, 2022). 89% of new visitors and 71% of returning visitors who left the site without making a purchase did not return to the site again (Tang & Lin, 2019). By the mid of 2022, cart abandonment rate for few industries sky-rocketed to as high as 88% for fashion, 86% for automobiles and 82% for travel (SaleCycle, 2022). Problem with cart abandonment remains a big challenge for online retailers, reiterating the need to understand key drivers of online purchase behaviour. Given the scope and economic impact of online shopping cart abandonment, understanding key drivers of this behaviour is essential (Rubin et al., 2020).

Figure 1.2

Global Digital Shopping Cart Abandonment Rate 2011-2021



Purchase intention refers to the extent of a customer's willingness to make a purchase (Peña-García et al., 2020). Health concerns set off by the COVID-19 pandemic affected consumers' behaviour and decision-making process. It shaped consumer's attitude and preference for online shopping. Emotional ambivalence weakens purchase intention, even more so among those who used to shop at physical stores causing hesitation at the point of checkout (Wang et al., 2022). At the same time, with increased freedom and possibilities, online decision making became fuzzy and complex (Schultz & Block, 2015). Customers with emotional ambivalence and hesitation at checkout with weak or no intention to purchase contribute to both low conversion rate and high cart abandonment (Huang et al., 2018). To mitigate the alarming low online conversion and high cart abandonment rate, this research focuses on the customers themselves, understanding the factors like behaviour, attitude and experience that significantly drive purchase intention.

There is currently no unified model or approach in understanding influences of online purchase. Prior research has attempted to approach it from different angles; search intention, shopping orientation, psychology, e-service quality, Flow experience, etc.

Majority of studies on online consumer behaviour are fragmented (Bahl & Kesharwani, 2018). Purchase behaviour is mostly studied to investigate adoption of online shopping technology and purchase intention (Soares, 2022; López-Bonilla et al., 2021; Alfadda & Mahdi, 2021; Vahdat et al., 2020; Chen & Hung, 2015). There is also much research done to predict behaviour in the e-commerce space taking the value of attitude, social pressure, perceived behavioural control and purchase intention approach (Hagger et al., 2022; Moon et al., 2021; Dangi et al., 2020; Wei et al., 2018; Dewberry & Jackson, 2018).

For the new tech-savvy generation, study of immersive online experience like the Flow concept has become popular as it is thought to drive high engagement that could lead to purchase (Barta et al., 2021; Hyun et al., 2021; Chen et al., 2018; Koufaris, 2002). Flow is significantly related to attitude and purchase intention (Chen, Tsu and Lu, 2018). Given the fierce competition in the digital space, online retailers can get ahead of their rivals if they can provide unique and enjoyable experiences for their customers. The factor of experiential efficiencies that can only be achieved with past online shopping experience in adopting online shopping is another powerful and reliable indicator of building purchase intention and subsequent behaviour (Mondol et al., 2021; Bigné-Alcañiz et al., 2008; Hernández et al., 2011; Im et al., 2008). Past purchase experience is particularly crucial in today's environment and particularly for the young shoppers who embrace the online platform as their main retail channel. They will evaluate their experience intently with regards to product, payment methods, service offerings, customization and more (Mondol et al., 2021); affecting future purchase intention. The factor of past purchase experience does not only affect the purchase decision but also builds confidence for repeat purchase at bigger volume and higher value over time (Silva et al., 2018).

Research based on any single theories has prompted criticism (Sharif & Naghavi, 2021), and yet there are less attempts in the area of combining multiple angles, a robust

approach combining attitudinal, behavioural and experiential aspects of this behaviour. The recent COVID-19 pandemic had seen much new research examining the impact of the disruptions on consumers online shopping behaviour (Soares, 2022; Baarsma & Groenewegen, 2021; Ellison et al., 2021; Eger et al., 2021; Sharma & Jhamb, 2020; Vinerean, 2020). While it was not an intentional objective to review how health scare, social isolation and movement controls are likely to impact online purchase behaviour, the field work for this research took place at the height of the pandemic. It created an opportunity for the researcher to examine how this disruption challenges the existing well-established theoretical models. While it is unlikely for online shopping to totally replace traditional shopping method in the brick-and-mortar stores (Aryani et al., 2021), the pandemic could create a new structure in affecting consumers' purchase behaviour under such uncertain decision-making circumstances (Erjavec & Manfreda, 2022).

It is extremely challenging to keep up with the changing landscape of online shopping to develop a unified conceptual or empirical research model for online shopping. While there is a substantial body of research that has shed light on various aspects of the behaviour, it is crucial that continuous studies are conducted to explore new dimensions of online behaviour to deepen the understanding of this complex and evolving phenomenon.

In view of the above research gaps, this study offers a robust research model that captures factors influencing purchase intention at key stages of the consumer journey, to understand the heterogenous path to purchase. From technology adoption forming an attitude towards online shopping, social behaviour, the immersive shopping experience, past purchase experience and intention to purchase. With the increasing importance of e-commerce to be competitive in the worldwide market, understanding the elements that drive online purchase intention could help to acquire more online customers (Chelvarayan et al., 2022). This research hopes to help marketers, retailers and e-commerce business

owners across all industries to develop more effective online strategies and tactics, and to implement an appropriate customer journey that will lead to the ultimate outcome of the customer making a purchase.

1.5 Research Questions

Based on the research background, problem statements and research gaps, the researcher explores several key research questions related to understanding key drivers to online purchase intention. The primary goal for this research is to provide answers to the following research questions:

(1) What are the behavioural factors, i.e., perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, attitude and Flow that are influencing customers' online purchase intention?

(2) Is there a significant relationship between Flow, immersive shopping experience towards attitude and purchase intention?

(3) Does past online purchase experience moderates the relationships between attitude and purchase intention, and between Flow and purchase intention?

(4) Does the online purchase behaviour during COVID-19 pandemic challenges the hypotheses in well-established behavioural theories?

1.6 Research Motivations

Being a practitioner in the fields of marketing and retail; for both traditional brick-and-mortar and e-commerce, in media and communication, the researcher was motivated to advance the knowledge of key drivers to online purchase intention by having a deeper understanding of how customers behave and what motivates them to develop the intent to purchase and eventually make the actual purchase in an online environment. After ploughing through hundreds of related literatures, the researcher was motivated to

conduct this study, to develop a thesis that challenges customer intent and behaviour, to replace the advantage of visiting a physical store that delivers cognitive, affective, social, and physical, tangible experience (Bustamante & Rubio, 2017), the sensorial experience and 'personal touch' that they yearned for. What was once thought to be irreplaceable on digital platforms is no longer true. New technologies like augmented reality, live chats, voice activated personal assistants (Sharma, 2017), chatbots and artificial intelligence agents are aggressively merging to surpass the benefits of visiting a physical store at an online store.

This research will help to push the boundaries of looking beyond the common constructs of online shopping adoption and other influencers of purchase intention. This study integrates major well-known variables like perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, Flow experience, attitude towards online shopping and past shopping experience to explain which significant factors ultimately influence customer's purchase intention. Purchase intention is the extent of customers' willingness to make a purchase at the online store (Peña-García et al., 2020; Pavlou, 2003; Ajzen, 1991). With better understanding of what drives purchase intention, it will improve the conversion rate of an online shopper to a buyer, acquiring more customers, translating to higher sales and revenue. Customers' behaviour is constantly evolving, faster than it has ever been throughout the digital age. The motivation to better understand purchase intention was crucial at the time where online shopping was a novelty concept making its way into our lives but at present time, post COVID-19 pandemic, online is rapidly becoming a mass channel to shop hence understanding factors that convert an online sale is now monumental. The underlying key motivations for the researcher to develop this thesis is the prospect of sharing learnings and insights with stakeholders in both retail and communication fields, contributing to the growth of e-commerce industry. This study adds a much better conversation and advancement to the

body of knowledge via an integrated theoretical framework focussing on customers' attitude, behaviour and immersive shopping experience.

1.7 Research Purpose and Objectives

All businesses start and end with understanding and fulfilling customers' wants and needs. Study of consumer behaviour is necessary, even more so in the e-commerce environment as consumers are elusive (Oppotus, 2019). The objective of this study is to explore the key factors on online customer purchase intention and behaviour, from social psychology elements like attitude towards online shopping, subjective norm, perceived behavioural control, perceived usefulness and perceived ease of use (Peña-García et al., 2020), to the immersive experience from interacting with information systems.

The purpose of this study is to understand the driving forces behind customers' online purchase intent from the attitudinal, behavioural, and experiential perspectives. Research based on any single behavioural theories on their own has triggered critique and this has led to a new trend in literature to jointly examine integrated theories for a more robust findings (Sharif & Naghavi, 2021; Wu & Song, 2021; Peña-García et al., 2020; Agag et al., 2019; Chen et al., 2018; Alzahrani et al., 2017). Lee (2009) proved that a unified theoretical model combining the Technology Acceptance Model and the Theory of Planned Behaviour had produced satisfactory results for the study of adoption and usage of online trading industry.

To have a deeper understanding of the online user behaviour from multiple psychological angles; cognitive (attitude, intent, behaviour) and positive psychology (immersive user experience), this research integrates three well-established theories; the Technology Acceptance Model (TAM) (Davis, 1989), the Theory of Planned Behaviour (TPB) (Ajzen, 1991; Fishbein & Ajzen, 1975) and the concept of Flow experience (Csikszentmihalyi, 1975), enhanced with the effect of past purchase experience (Mondol

et al., 2021; Smith & Sivakumar, 2004; Suki, 2013). Technology adoption, attitude towards online shopping, social behaviour and human-computer interaction provides a robust and meaningful contribution to the existing body of knowledge in understanding online consumers. This research hopes to capture factors influencing purchase intention throughout the heterogeneous path to purchase, building towards the intention to purchase, to eventually, making an actual purchase.

As the world is fresh from a global pandemic, it is the responsibility of researchers to consistently advance and test theories, to applying them in multiple contexts and environments to understand factors affecting crucial consumer behaviours to enable practitioners to better strategize and optimise business returns. With the study on online purchase behaviour during the COVID-19 pandemic that defies the well-established behavioural theories, the researcher hopes to uncover and understand how the pandemic has influenced consumer behaviour in ways that were not predicted nor explained by the behavioural theories. Some changes in consumers' behaviour due to fear, uncertainty and being locked down at home were evident, such as hoarding, exploring into new product categories for self-improvisation, pent-up demand and technology adoption, inducing new buying pattern (Sheth, 2020) impacting the existing issues of low conversion rate and perpetual high cart abandonment rate.

The objectives of this study are:

i) To assess the influence of consumer behavioural factors i.e., perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, attitude and Flow that are affecting customers' online purchase intention.

ii) To examine the relationships among Flow, immersive shopping experience, attitude, and purchase intention.

iii) To determine whether past online purchase experience moderates the relationships between attitude and purchase intention, and between Flow and purchase intention.

iv) To study whether the online purchase behaviour during COVID-19 pandemic defies well-established behavioural theories.

Table 1.4 sets the background for the research, summarises the problem statements, research gaps, research objectives and research questions.

Table 1.4

Summary of Research Background

Problem Statements	Research Gaps	Research Objectives	Research Questions
Low online store conversion (< 2%) High cart abandonment rate (70%)	(1) Few attempts in a more robust approach, combining multiple aspects of behaviour. (2) No unified model in understanding influence of online purchase intention, to mitigate low conversion rate and high cart abandonment. (3) Extremely challenging to keep up with fast-changing landscape and techonology advancement for online shopping.	(1) To assess the influence of consumer behavioural factors i.e., perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, attitude and Flow that are affecting customers online (2) To examine the relationships among Flow, immersive shopping experience, attitude, and purchase intention. (3) To determine whether past online purchase experience moderates the relationships between attitude and purchase intention, and between Flow and purchase intention. (4) To study whether the online purchase behaviour during COVID-19 pandemic defies traditional well established theories.	(1) What are the behavioural factors, i.e., perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, attitude and Flow that are influencing customers' online purchase (2) Is there a significant relationship between Flow, immersive shopping experience towards attitude and purchase intention? (3) Does past online purchase experience moderates the relationships between attitude and purchase intention, and between Flow and purchase intention? (4) Does the online purchase behaviour during COVID-19 pandemic challenges the hypotheses in well-established behavioural theories?

1.8 Research Contribution

From an academic perspective, this thesis aims to contribute to the body of knowledge with an integrated research model that advances online behavioural theories in explaining how attitude and immersive experience can influence purchase intent, building on existing knowledge of online shopping behaviour. This research is important as there is currently no consensus on a unified approach in the study of online shopping

behaviour. It will offer a combination of tested behavioural model, technology acceptance model, immersive experience theory and the past purchase experience to help shape an individual's purchase intent, important in today's environment where consumers are largely tech savvy and has prior online purchase experience.

This research contributes to the advancement of online shopping behavioural study by combining the three seminal theories; the Technology Acceptance Model (TAM) (Davis, 1989) and the Theory of Planned Behaviour (TPB) (Ajzen, 1991; Fishbein & Ajzen, 1975), psychological theory of the Flow experience (Csikszentmihalyi, 1975) and testing of past purchase experience as a moderating factor to explain online shopping behaviour. Research based on any of these single theories on their own often trigger criticism. Research in the past have jointly examined integrated theories for a more robust findings (Sharif & Naghavi, 2021; Wu & Song, 2021; Koch et al., 2020; Peña-García et al., 2020; Agag et al., 2019; Chen et al., 2018). Optimistically, this study can help to provide a more vigorous understanding of theories in online consumer behaviour.

The COVID-19 pandemic crisis triggered basic changes to economic and social behaviour. Companies need to understand consumer behaviour of current time (Koch et al., 2020). To marketers and e-commerce retailers, the practical contribution this research hoped to provide is to help improve e-commerce strategies with valuable insights with the understanding of the factors driving consumers' purchase intent, the precursor to making a purchase decision. Online businesses can improve their websites, content, and marketing strategies to address the problems highlighted in this research, low conversion, and high cart abandonment. With better understanding of customers' purchase intent and enhanced strategies to convert, retain and acquire more customers, to deliver sales and profitability.

While it is less important, this research is also applicable to retail practitioners who operate mainly in analogue. A few well-known retail giants failed to keep up; like

Tower Records, an international retail music franchise filed for bankruptcy in 2004 when they could not keep up with digital disruption like online music streaming services, Borders, an American multinational book and music retailer in 2011 failed to embrace the internet like Amazon and Barnes and Nobles, and Toy 'R Us, a global toy retailer filed for bankruptcy in 2017 when they missed the opportunity to develop their own e-commerce presence (Aaslaid, 2019; Rigby, 2011). It is a matter of survival for retailers today that products and services are built around customers and not the other way around. Having fulfilled the research objectives in Section 1.7, the researcher hopes to contribute to both academics and to practitioners in the field of marketing and e-commerce retailers alike.

1.9 Conceptual Definition

Conceptual definition outlines assumptions, concepts and theories that form the basis of the research model, providing a framework for understanding the phenomena that is being studied. The research model for this research posits that an individual's purchase intention is preceded by his or her attitude towards online shopping and immersive online shopping experience. The Technology Acceptance Model and the Theory of Planned Behaviour variables form the underlying framework with added variables that directly and indirectly influence purchase intention. To examine indirect influence on purchase intention, the researcher tested the mediating role of attitude towards online shopping on the relationship between perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control and Flow on purchase intention. For testing of the moderating effect, the researcher added the construct of past purchase experience on the relationships between attitude towards online shopping and purchase intention, and between Flow and purchase intention, whether it encourages or discourages online purchase intention, or no significant impact.

In this study, the consumer is considered both an online customer and a computer user. This research examines constructs from adoption of a technology system (Technology Acceptance Model), consumer behaviour (Theory of Planned Behaviour) and experiential psychology (concept of Flow) and past purchase experience in an integrated theoretical framework to understand the main triggers of online purchase intention and what it takes to acquire more online customers.

1.10 Organisation of Thesis

This paper is organised into 6 chapters which are, Introduction, Literature Review, Research model and Hypotheses, Research Methodology, Data Analysis and Results, Discussions and Conclusion. Figure 1.3 illustrates the content overview of the thesis by chapter.

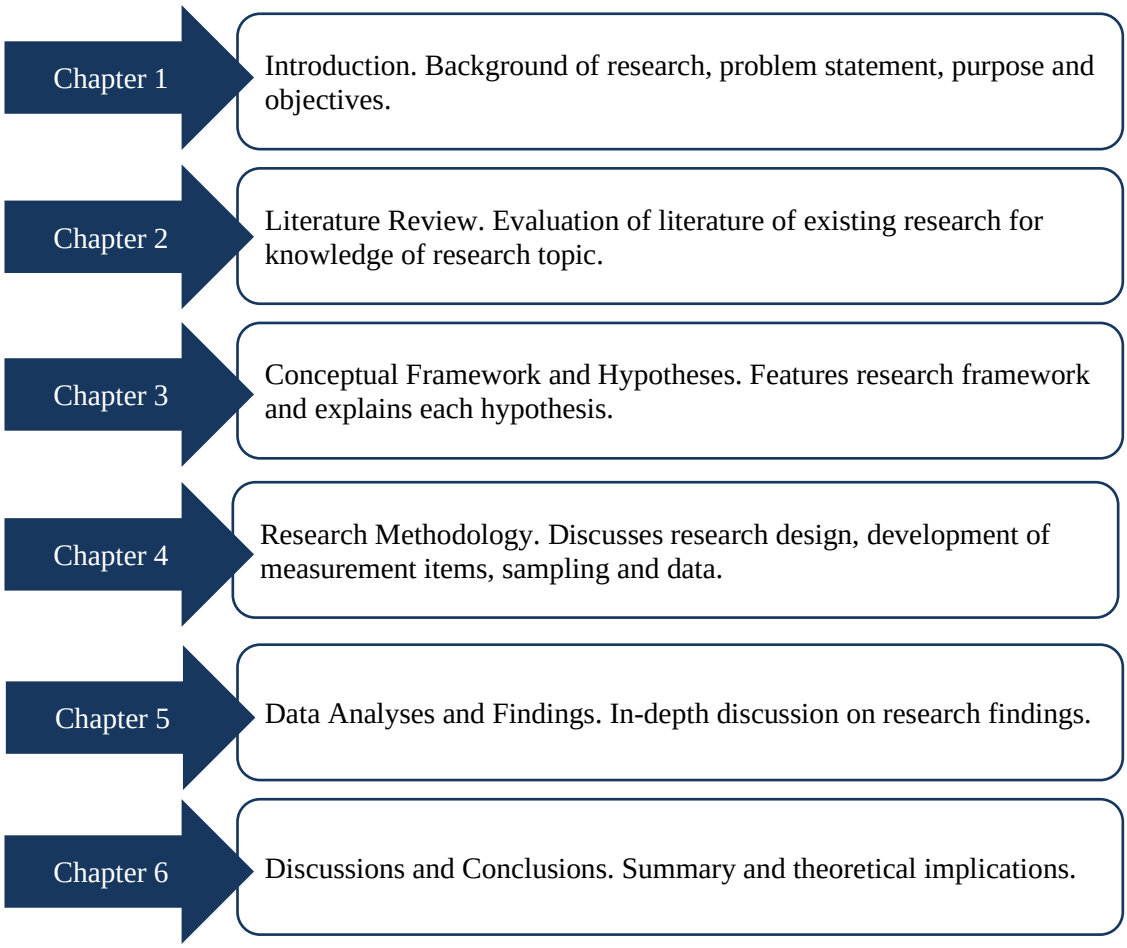
Chapter 1 outlines the understanding of the research background, an overview of the current e-commerce industry, problem statements and the purpose and objective of this research. Chapter 2 offers exhaustive review of the literature on online shopping intent and purchase behaviour. The literature review in Chapter 2 sets the stage to introduce the research model with all the constructs that affect online purchase behaviour in Chapter 3. The research model fills the research gaps identified in both Chapter 1 and 2 where the researcher goes into much detail on the adapted models and additional variables to further explain factors influencing online purchase intention. In this chapter, the researcher explains the reasons for choosing each construct and knowledge of the relationship between the constructs, providing the explanation for each hypothesis.

Chapter 4 on Research Methodology explains the research philosophy, research design, survey instrument, measurement scale, questionnaire design, sampling, data collection and data analysis procedures. Chapter 5 on Data Analysis and Results covers in-depth discussion on the analysis and research findings. The researcher evaluates the

measurement model, reliability and validity, the structural model and testing of the hypotheses. Lastly, Chapter 6 provides a summary of the empirical findings and analysis to discuss the theoretical implications for e-commerce behavioural researchers and practical implications for market practitioners, as well as the limitations of this paper and future scope of research. In this chapter, the thesis ends with a summary of the conclusion drawn from the research.

Figure 1.3

Illustration of How This Thesis Is Organised



CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

As outlined in Chapter 1, this study aims to understand factors that affect online purchase intention despite a pandemic situation with some level of movement restrictions. From the attitudinal, behavioural and experiential perspectives, this study integrates three well-established underpinning theories; the Technology Acceptance Model (TAM) (Davis, 1989), the Theory of Planned Behaviour (TPB) (Ajzen, 1991; Fishbein & Ajzen, 1975) and the concept of Flow experience (Csikszentmihalyi, 1975). The Theory of Planned Behaviour provides the explanation of driving intention to adopt online behaviours which in turn are explained by the extrinsic motivations in The Technology Acceptance Model and intrinsic factors in the Flow experience. The integration of these three theories informed how emotional and cognitive factors drive intention to perform an online behaviour (Sharif & Naghavi, 2021). The researcher believes that technology adoption, attitude towards online shopping, social behaviour and human-computer interaction capture the essence of online path to purchase, providing a robust and meaningful contribution to the existing body of knowledge and e-commerce industry in understanding online consumers purchase intention. Intention is the immediate antecedent of targeted behaviour, the key motivator behind customers decision to make an online purchase (Hagger, 2022).

Before developing the research model, the existing body of knowledge on this topic was examined. The review and assessment of the literature are discussed here in detail. This chapter reviews related and relevant literature to achieve the research objectives, and it is organised into eight sections. After the introduction, Section 2.2 sets the stage by establishing the alignment of research problem statements with research objectives. Section 2.3 reviews underpinning theories used of the Technology Acceptance Model on the adoption of information systems, the Theory of Reasoned Action as the

foundation behavioural theory and the Theory of Planned Behaviour. As this study attempts to understand online purchase intention from various perspectives, Section 2.4 reviews the experiential factors when consumers interact with the information systems that influence purchase intention, namely the concept of Flow. According to Ajzen (1991), intention influences behaviour. Stronger the purchase intention, the more likelihood the actual purchase behaviour will take place (Chelvarayan et al., 2022). Hence, in the subsequent section, Section 2.5 looks at the influence of purchase intention as the representation for purchase behaviour and how they are correlated according to past studies. Section 2.6 reviews past purchase experience as the moderator on the relationships between key behavioural constructs and purchase intention and Section 2.7 reviews more recent studies on the impact of COVID-19 pandemic on online consumer behaviour. Finally, Section 2.8 summarises the chapter.

2.2 Alignment of Problem Statements and Research Objectives

For this research, a combination of behavioural and psychological theories has been considered to address the issues of low online conversion and high cart abandonment rate. Assessing the influence of consumer behavioural factors on online purchase intention can help to identify the factors that are likely to lead to low conversion and high cart abandonment rates. The Theory of Planned Behaviour focuses on the role of attitude, subjective norm, and perceived behavioural control in influencing behaviour (Ajzen, 1991). This is relevant to the issues of low conversion rate and high cart abandonment because it helps to identify the specific factors that are preventing consumers from completing their purchases. If the research shows that consumers are abandoning their carts, at the most crucial point of completing the transaction because they have a negative attitude towards online shopping, then retailers can develop strategies and tactics to improve consumers' attitudes towards online shopping.

The Technology Acceptance Model focuses on two factors, perceived usefulness and perceived ease of use in influencing technology adoption (Davis, 1989). It alludes to how user-friendly and how useful the shopping platform to consumers. It could point retailers to the specific approach or modification to improve users' online journey. Abandoning the cart could be due to the difficult complicated time-consuming checkout process. Low conversion rate could be due to website performance issues, too slow to load, difficult to find information or could not tabulate total costs properly. With the knowledge of the barriers, online retailers can improve the e-commerce site to be easier and more efficient to use. In the age where many consumers are digital savvy, examining the relationships among Flow (Nakamura & Csikszentmihalyi, 2014), immersive shopping experience, attitude, and purchase intention will close the loop in understanding how to create a more engaging, long lasting and motivating online shopping experience to increase conversion and reduce cart abandonment. Users drop off at certain points through the journey when they are not engaged with the shopping experience (Rubin et al., 2020). Examining the relationships between Flow, attitude and online purchase intention could help to identify specific solutions to make the shopping experience more fun and rewarding.

The researcher has also identified past online purchase experience as the independent variable to have a moderating effect on the relationship between attitude and purchase intention and between Flow and purchase intention. Past purchase experience determines future behaviour (Jensen et al., 2021). Retailers could leverage on customers' familiarity with the brand and online store to address low conversion and cart abandonment issues. Studying whether the online purchase behaviour during COVID-19 pandemic defies well-established behavioural theories can help to identify changes in consumer behaviour that need to be taken into account when developing new strategies to drive purchase intent to improve conversion and reduce cart abandonment.

Similarly, a holistic approach of combined theories of the Theory of Planned Behaviour, the Technology Acceptance Model and Flow intend to address the specific research objectives by assessing the influence of consumer behavioural factors on online purchase intention by incorporating key variables into the research model. The variables are perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, attitude, Flow, and purchase intention from all three theories (Ajzen, 1991; Davis, 1989; Nakamura & Csikszentmihalyi, 2014). The present research aims to provide a comprehensive understanding of the factors that influence online purchase intention and develop effective strategies to improve conversion rates and reduce cart abandonment. In the subsequent sections, detailed literature review of each theory, the past purchase experience variable and effect of Covid will be discussed.

2.3 Underpinning Theories on Online Consumer Behaviour

Theories in business and management are used to explain an individual's behaviour or an outcome associated with individuals hence it can be used for prediction and explanation (Wilkins et al., 2019). As both low conversion rate and high cart abandonment are significant issues in the e-commerce industry, a few notable studies focussed on the subject matter include Bell et al. (2020), Indiani and Fahik (2020), Rano & Sungkur (2019), Saleem et al. (2019), Song (2019), Huang et al. (2018) and Kukar-Kinney and Close (2010). Behaviour formation is led by beliefs and thoughts that shaped affective responses on whether something is favourable or otherwise and effectively explained buying and non-buying behaviour (Kapoor & Viji, 2021; Huang et al., 2018). Bell et al. (2020), Song (2019), Rano and Sungkur (2019) and Huang et al. (2018) and Kukar-Kinney and Close (2010) researched the phenomenon and factors that contributed to consumers' low online conversion and cart abandonment involving underlying behavioural processes and the psychological factors and insights that contribute to

consumers failure to transact online. It was found that decisional conflict and ambivalence, uncertainty and frustrating shopping experience due to usability and site performance are the main deterrents to complete the purchase.

Bell et al. (2020) explored the complex relationship between psychological motivations and experiential factors that influence consumer's behaviour to complete online transactions. Similar to findings by Kukar-Kinney and Close (2010), Bell et al. (2020) research revealed that like cognitive biases and heuristic like user experience and engagement caused emotional ambivalence such as excitement, anxiety and frustration can significantly affect the initial intent to purchase and determine the outcome of the purchase journey. Other relevant research includes Wang et al. (2022) who focused on stimulus-organism-response model and found that hesitation is the main cause of shopping cart abandonment, Jiang et al. (2021) assessed cart abandonment focussing on post-decision stage and Mishra et al. (2021) explored moderating effects of cart abandonment and value-consciousness. Several research highlighted the limitation in the findings for not considering motivations to complete the transaction such as behavioural variables. This alludes to the fact that there is a lack of studies that consider behavioural and psychological variables influencing online purchase to lead consumers to a successful transaction or dropout (Ong et al., 2022).

In Malaysia specifically, where this research fieldwork is done, studies to understand online purchase behaviour and successful transactions are highly fragmented. Tamana et al. (2019) used theories like the Technology Acceptance Model and the Theory of Planned Behaviour and found that Malaysians find online shopping entertaining and fun. Motivations to shop are mainly driven by hedonic values. Wong et al. (2018) also found that hedonic motivations are important for the Malaysian shoppers, but this is closely followed by utilitarian or essential values. There are several local studies that zeroed in on specific behavioural factors that drives online purchase intention like risk

factors (Bhatti et al., 2020; Akram, 2018; Kamalul Ariffin et al., 2018; Kassim & Ramayah, 2015), social factors (Balasudarsun et al., 2018) and past purchase experience (Mondol et al. 2021). More recently, Ahmad et al. (2023) studied the concept of customer perceived value and found its significant positive impact on online purchase intention It is common to find online behavioural studies in Malaysia, understanding influences of online shopping to focus on niche industries like online banking (Kassim & Ramayah, 2015), fast fashion brands (Shan & Ong, 2018) and online trading (Sharif & Naghavi, 2021), and on niche segments like among Gen Y (Manwaluddin et al., 2018, Shan & Ong, 2018), Gen Z (Mondol et al., 2021), Gen X (Chelvarayan et al., 2022), young adults (Mokhtar et al., 2020) and among university students on specific campus (Daud et al., 2022). According to Mokhtar et al. (2020), online shopping behaviour of young adults in Malaysia are positively influenced by the factors of convenience, satisfaction, and price level.

These thoughts led the researcher to take a more holistic approach in the quest to understand online consumer buying behaviour. To explicitly address the determining factors of customers' online purchase intention from the attitudinal, behavioural, and experiential or psychological aspects. In the context of the study on online consumer behaviour, review of research articles in various journals shows that researchers are largely drawn to traditional attitudinal models like the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), and the Theory of Planned Behaviour (TPB) (Ajzen, 1985, 1991) and the Technology Acceptance Model (TAM) (Davis, 1989) and more recently, the psychological experiential theory, the Flow concept (Csikszentmihalyi, 1975).

Due to the COVID-19 pandemic, existing consumer attitudes, behaviours and structures are being questioned. The crisis triggered fundamental economic and societal changes (Koch et al., 2020). In the late 1960s, Alan W. Wicker (1969) explained why study on attitude is so popular is that social psychologists believe that attitudes translate

to social behaviour. Interestingly, his study on the relationship between attitudes and behaviour in the same year concluded that attitudes do not predict behaviour (Wicker, 1969). Through the years, many have approached this topic with either single behavioural theories and more recently integrated behavioural models with additional contributing factors including social norms or intentions (Wu & Song, 2021, Peña-García et al., 2020; Koch et al., 2020, Agag et al., 2019; Chen et al., 2018). Fishbein and Azjen (1975) explained that most researchers would agree that attitude is a propensity to respond consistently to a favourable or unfavourable situation. Attitude was later defined as a latent variable that is assumed to influence individuals' behaviour and that it could not be observed directly, but rather through consistency of behaviour.

In the aim to understand online shopping behaviour and factors that influence online purchase intention, many researchers based their studies on widely used attitudinal theories in understanding the pre-requisite technology adoption of online shopping (Soares, 2022; Prasetyo et al., 2021; Vahdat et al., 2020; Fedorko, 2018; Cho & Fiorito, 2009), predicting purchase intention (Shukla et al., 2021; Mondol et al., 2021; Tang & Lin, 2019; Akar & Nasir, 2015; Hausman & Siekpe, 2009; Lin, 2007) and purchase behaviour or actual use (Hyun et al., 2021; López-Bonilla et al., 2021; Dangi et al., 2020; Fayad & Paper, 2015; Chen & Barnes, 2007; George, 2004; Limayem et al., 2000).

Al-Emran & Granic (2021) reviewed 2,399 articles from the year 2010-2020 on the Technology Acceptance Model and found that the e-commerce industry was on the top of the list where the theory was applied. As a matter of fact, the number studies with the Technology Acceptance Model are increasing due to recent emerging applications like augmented reality and virtual reality space like metaverse. The Theory of Planned Behaviour is another traditional behavioural theory that was popular even more than 2 decades ago. Cheung et al. (2005) conducted an exhaustive review of prior theoretical literature and found that behavioural models extended from The Theory of Reasoned

Action like the Theory of Planned Behaviour and the Technology Acceptance Model were both leading theories in this area of study. More recently, Simanjuntak & Putra (2021) who reviewed theoretical implications of the Theory Planned Behaviour on purchasing decisions and Moon et al. (2021) who studied the determinants of consumers' shopping behaviours both offline and online during the COVID-19 Pandemic can vouch that the Theory of Planned Behaviour is still relevant and has shown a high level of accuracy in predicting behaviour.

Chen et al. (2018) specified that the Flow experience is significantly linked to attitude and purchase intention, reaffirming Hoffman and Novak's (1996) suggestion that interesting and immersive online shopping experience is not only highly engaging but also likely to lead customers to make a purchase. With today's fast maturing digital savvy customers, fierce competition among online retailers can be addressed with a uniquely enjoyable, a Flow experience for their customers. There is evidence that consumers value the shopping experience even more than the product or services purchased (Barta et al., 2021).

Research based on any of these single theories on their own has prompted criticism. It has led to a new trend in literature to jointly examine integrated theories for more robust findings (Sharif & Naghavi, 2021; Alzahrani et al., 2017; Lee, 2009). Testing combinations of theories like the Technology Acceptance Model, the Theory of Planned Behaviour, and the concept of Flow have the benefits of increased accuracy, comprehensive framework and increased applicability. Increased accuracy because by considering multiple theories and factors, it helps the researcher to predict user behaviour better. As each theory provides a different perspective on user behaviour, combining the theories also provides a more comprehensive understanding of the factors that influence user online behaviour. As each theory has its own limitations in its applicability to

different contexts, by combining theories, researchers can help identify which factors are most relevant in different contexts and environments.

It was found that the integration of the Technology Acceptance Model and the Theory of Planned Behaviour theories have demonstrated relatively satisfactory results for the proposed research model, and it can serve as a unified theoretical model to understand the adoption of online behaviour (Wu & Song, 2021, Peña-García et al., 2020; Koch et al., 2020, Agag et al., 2019; Chen et al., 2018). The combination of the Technology Acceptance Model, the Theory of Planned Behaviour and the Flow concept has only been done specifically for online trading behaviour (Sharif & Naghavi, 2021). This study attempts the integration of the 3 theories for online purchase intention amidst a global pandemic with a certain level of customer isolation and restricted movements. This will allow a richer contribution to both literature and industry practitioners to better understand online customer behaviour from multiple psychological angles; cognitive (attitude, behaviour and intent) and positive psychology (immersive user experience).

In the following section, the researcher reviews literature on attitudinal, behavioural and experiential theories capturing factors influencing purchase intention at key stages of the consumer journey, throughout the heterogenous path to purchase. From technology adoption, positive attitude towards online shopping, immersive shopping experience to purchase intention. Starting with the framework that forms the foundation of this study; Technology Acceptance Model (Davis, 1989), Theory of Reasoned Action (Fishbein & Ajzen, 1975) that extended to the Theory of Planned Behaviour (Ajzen, 1985, 1991) and the Flow experience (Csikszentmihalyi, 1975).

2.3.1 The Technology Acceptance Model

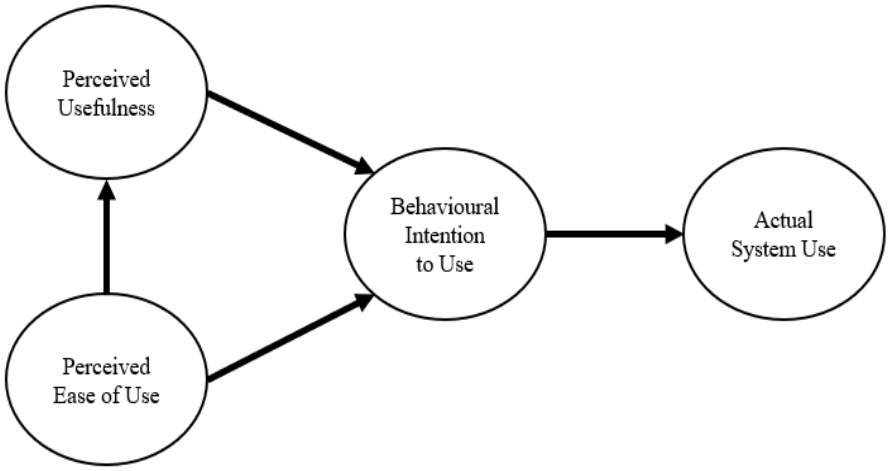
Technology transforms wants into needs and has created new habits like online shopping, online education, online dating and online anything (Sheth, 2020). At the core

of it all, what sets apart the online and offline consumer behaviour is the interaction with technology where the physical store is replaced with the electronic shopping environment. Unlike offline retail environments, an online store environment is virtual in nature and lacks sensory cues. On the other hand, the internet has unique characteristics like storing large amounts of information, providing information on demand (Panda & Swar, 2013) and unlimited virtual space that allows showcasing of the full range of products that otherwise not possible in a physical store with space constraints.

The first underpinning theory to be reviewed is the Technology Acceptance Model. Originally, the Technology Acceptance Model (Davis, 1985, 1989) was drawn from the Theory of Reasoned Action, which was proposed by Ajzen and Fishbein (1975) and the Theory of Planned Behaviour (Ajzen, 1985). In the mid-1980s, Fred D. Davis Jr (1985) developed the Technology Acceptance Model, a theoretical model to test the impact of system features on user acceptance of computer systems. The model is built on the theory that an individual's behavioural intention of system use is based on two main constructs, perceived usefulness, and perceived ease of use (Davis, 1989). It is believed that the intention to use the technology influences the possibility of actual use (Davis, 1989). Refer Figure 2.1.

Figure 2.1

The Technology Acceptance Model (Davis et al., 1989)



The model was developed to better understand user's acceptance and processes, providing valuable insights into a successful implementation of the new system design. The Technology Acceptance Model is an adaptation of the Theory of Reasoned Action (Fishbein & Ajzen, 1975) for predicting information systems adoption (Davis et al., 1989). Davis (1989) explained that the decision to use a new system is based on the extent of people's belief that it will help to enhance their job performance, which is perceived as usefulness. For example, there may be a situation where potential users believe the system is useful but too hard to use. However, the benefits of using the system out-weigh the effort of learning to use it. Davis (1989) defined perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320) while perceived ease of use describes "the degree to which a person believes that using a particular system would be free of effort" or rather, freedom from difficulty. These constructs determine the attitude towards use of a technology which in turn motivates purchase intention for the actual usage (López-Bonilla et al., 2021; Vahdat et al., 2020; Olushola & Abiola, 2017). In addition, when a

person enjoys a specific activity, finds it easy to use and believes that it gives valuable benefit, it creates a strong intention and ability to perform the behaviour which leads to the actual performance or behaviour itself (Agag et al., 2019; Alzahrani et al., 2017).

Whilst the Technology Acceptance Model was designed for adoption of computer-based technology (Venkatesh & Davis, 2000), it has been successfully adopted as a theoretical framework for online shopping behaviour as well (Soares et al., 2022; Wei et al., 2018; Akhlaq & Ahmed, 2015; Chen & Barnes, 2007; Chin & Goh, 2017; Chiu et al., 2009; Putro & Haryanto, 2015; Ramayah & Ignatius, 2005; Sin et al., 2012;) to predict online purchase intention including social commerce, a newly evolved online shopping experience that combines commercial activities and social activities by linking social media platforms to e-commerce sites (Fedorko et al., 2018; Lu et al., 2016). Hence, the Technology Acceptance Model is important to be included in this study.

The Technology Acceptance Model is well-supported through validations and applications by researchers (Soares et al., 2022; Prasetyo et al., 2021; Vahdat et al., 2020, Athapaththu & Kulathunga, 2018; Fedorko, 2018; and Olushola & Abiola, 2017; Venkatesh, 2000; Davis & Venkatesh, 1996; Gefen & Straub, 1997; Hendrickson et al., 1993; Mathieson, 1991) indicating that the model is robust regardless of settings, people and technologies. Davis et al. (1989) suggested that the Technology Acceptance Model is capable of explaining user behaviour across a wide range of end users. Mathieson (2014) added that compared to the Theory of Planned Behaviour, the Technology Acceptance Model is found to be easier to apply but provided little insights on user's opinion about a system. Besides being a robust but parsimonious theory, it uses the simplest assumptions when interpreting data, it is theoretically justified and useful to understand and explain usage behaviour in information systems (López-Bonilla et al., 2021; Olushola & Abiola, 2017; Venkatesh, 2000), in our case, online shopping adoption.

The model has been proven to be reliable and valid constructs with up to 40% accuracy in predicting usage intention and up to 30% of usage (Burton-Jones & Hubona, 2006).

Viswanath Venkatesh (2000) puts an interesting build on the perceived ease of use construct as past research has established that it is an important determinant of user acceptance and usage of the information systems but there is little understanding of how that perception develops and changes. Venkatesh (2000) explored the model by anchoring and adjustments-based models were tested with key variables that reflect general beliefs like computer efficacy, perceived external control, anxiety, and competitive playfulness and adjustments variables that are shaped by direct interaction and experience with the system like perceived enjoyment and objective usability. Besides strongly supporting all points of measurements, the study results could explain up to 60% of the variance in the system perceived ease of use implicating the point that users certainly viewed the system usage to be intentional (Venkatesh, 2000).

On other technology acceptance theories, Everett Rogers developed the Innovation Diffusion Theory (IDT) in 1962 to explain customer's decision to adopt new technologies based on their beliefs about the innovation. According to the Innovation Diffusion Theory, five key determinants of a user's intention to accept new technologies are the relative advantage, compatibility, complexity, trialability, and visibility (Agag, 2019). The Innovation Diffusion Theory is more commonly adapted to predict use of new information systems (Hassani, et al., 2017). On another technology adoption framework, Soyeon Shim and Mary Frances Drake (1990) utilized the Fishbein Behavioural Intention theoretical framework that postulates behavioural intention is a result of attitude or personal and normative or social components. Consumers' intention to use an electronic shopping mode was examined with two main constructs being attitude towards performing the behaviour and subjective norm. It was found that, in the absence of motivation to comply, both attitude and normative belief were equally important in

predicting electronic shopping intention. The more appropriate information systems adoption model to use for this research is the Technology Acceptance Model as it is customer-focused, providing explanation and the correction of existing behavioural systems.

Despite being highly regarded as a reliable and applicable model for the study on factors affecting users' behaviour to adopt various technologies in the last three decades, the Technology Acceptance Model has been criticised for being outdated (Al-Emran and Granić, 2021). From the review of more than two thousand articles published in the Web of Science database from the year 2010–2020, Al-Emran and Granić (2021) found that the Technology Acceptance Model is still valid. In fact, the number of studies adapting the model has increased in recent years especially in the field of e-commerce with the introduction of new technologies like augmented reality and virtual reality. Burton-Jones, Hubona et al. (2006) pointed out that external variables need to be included in the Technology Acceptance Model framework as they ultimately drive usage. It is found that researchers who studied the Technology Acceptance Model have considered external variables with no consistency in the choice of external variables studied. This is echoed by Cho and Fiorito (2009). Koufaris (2002) added consumer shopping enjoyment to perceived usefulness and perceived ease of use as determinants for future purchase intention, Gefen et. al (2003) added consumer trust as an influence of online purchase intention and Chen et al. (2002) added compatibility between online shopping, consumer's belief, value and needs to influence attitude towards the virtual store and, Chiu et al. (2009) added trust and fairness constructs to investigate factors influencing customers' loyalty towards online shopping.

The Technology Acceptance Model has also been criticised for its lack of constructs. It is common that past researchers have extended the Technology Acceptance Model with other variables like subjective norm, motivation, self-efficiency and trust

(Cho & Fiorito, 2009). The current research model integrates variables from the Theory of Planned Behaviour and concept of Flow to define the interrelationships of the constructs. Chen et al. (2002) and Moon and Kim (2001) critiqued the Technology Acceptance Model for overlooking the social influence on technology acceptance. Unlike the acceptance of a corporate information system, online shopping environments can be influenced by exogenous factors like customer traits, different circumstances, product features, past shopping experiences and the element of trust in online shopping. These are important factors that influence consumers' intention to shop online via web (Monsuwé et al., 2004) or mobile app (Vahdat et al., 2020).

Bhattacherjee (2001) highlighted that the Technology Acceptance Model only predicts initial adoption of new information systems. He argued that the long-term validity and success depend on users' continued usage, not just initial adoption. Fayad and Paper (2015) contended that the Technology Acceptance Model cannot completely explain the behaviour of online consumer as e-commerce adoption is unlike adoption of any new system. One clear difference is that online purchase decisions are voluntary, while the use of a new system is usually mandated by the organization that the user works for. Therefore, to work better as an e-commerce adoption model, an extended version of the Technology Acceptance Model may prove to be more useful to explain online shopping behaviour. Being a more advanced theory extracted from the Theory of Reasoned Action and the Theory of Planned Behaviour, the Technology Acceptance Model is expected to better predict purchase intention and behaviour (Olushola & Abiola, 2017).

Despite its age, the Technology Acceptance Model remains relevant. It is simple and easy to understand, the theory focussed on perceived usefulness and ease of use as the main determinants of technology acceptance making it simple and intuitive to use. It is flexible and adaptable to different contexts and technologies. The Technology

Acceptance Model has been tested and validated in numerous studies across different settings and technologies, providing empirical evidence for its validity and usefulness. The Technology Acceptance Model continues to be used by researchers and practitioners in the field of IT adoption and use, indicating that it remains relevant and valuable. As such, the Technology Acceptance Model remains a valuable tool for researchers and practitioners in any technology related field including e-commerce.

2.3.2 The Theory of Reasoned Action

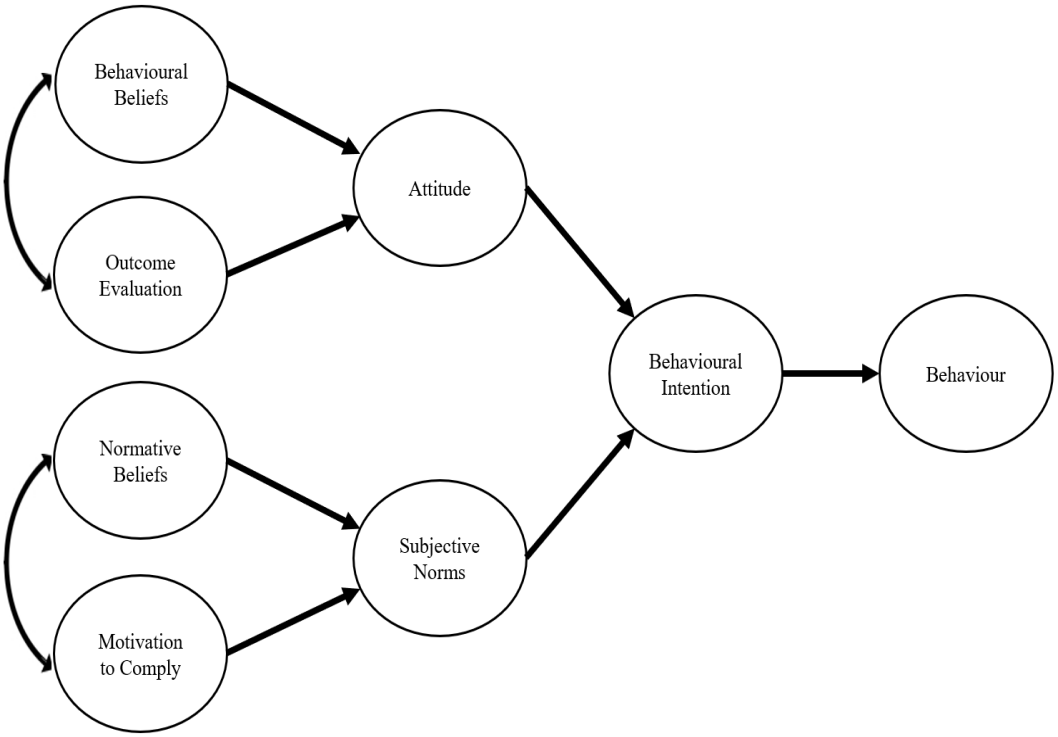
As the foundation of behavioural theory, the Theory of Reasoned Action is discussed here. It has been re-designed to fit individual technology adoption and use in the Technology Acceptance Model (Davis, 1989; Davis et al., 1989; Venkatesh et al., 2012). The Theory of Reasoned Action (Fishbein & Ajzen, 1975) provides a solid conceptual foundation to predict human behaviour in general (Fayad & Paper, 2015). The theory is designed to predict volitional behaviour assuming that people are generally sensible and tend to behave sensibly where they consider available information and the consequence of their actions. The Theory of Reasoned Action states that an individuals' behaviour is influenced by their behavioural intention. The Theory of Reasoned Action framework (Figure 2.2) shows that a person's intention is determined by personal and social influences. Personal factor refers to the attitude towards the behaviour, determined by the evaluation of the positive or negative outcome of the behaviour. Social influence referred to as subjective norm (Ajzen, 1985) is determined by the perceived opinion of others with regards to the behaviour, put upon the individual to perform or not to perform the behaviour (Fishbein & Ajzen, 1975; Hansen et al., 2004).

Researchers using the Theory of Reasoned Action as a behavioural intention model for its ability to predict any deliberate action unless the action intent changes prior to performing that behaviour (Fayad & Paper, 2015; Fishbein & Ajzen, 1975). This theory

is appropriately reviewed here as online shopping is a voluntary behaviour that can be explained with this behavioural theory (Limayem et al., 2000). It has been utilized in multiple older studies across different e-commerce industries and product categories; Hansen, Jensen and Solgaard (2004) on groceries, Lee, Qu and Kim (2006) on travel, Wu and Liu (2007) on online games, Lee and Park (2009) on apparels.

Figure 2.2

Basic Framework of the Theory of Reasoned Action (Ajzen et al., 1980).



Sheppard, Hartwick and Warshaw (1988) had done a meta-analysis of the Theory of Reasoned Action research to investigate if the model can indeed be used to predict most behaviours as claimed by Ajzen et al. (1980). The original intention of this model was to understand health related behaviours but more than half of Sheppard et. al (1988) review also covers non-health related activities like alcohol consumption, going to a

concert, watching television, attending a class or just taking a walk, to name a few. To their surprise, the review provided strong evidence of the model predictive value despite numerous instances where researchers contravened the circumstances initially proposed for the model. The robustness of the Theory of Reasoned Action in predicting behaviours across multiple conditions is established (Fayad & Paper, 2015; Madden et al., 1992; Sheppard et al., 1988).

While the Theory of Reasoned Action seems to hold well within the constraints it defines, researchers are concerned about predictions in situations that do not fit within the limitations of conditions. For example, situations where consumers do not have complete volitional control, where it involves process of choice or selection and when assessment of the situation is based on incomplete information, as it is impossible to have all the necessary information for any situation. These limitations and weaknesses of the Theory of Reasoned Action were highlighted by Sheppard et al. (1988). Ajzen (1985) himself had acknowledged that even normal daily activities performed at will or otherwise, are sometimes subject to factors beyond one's control.

The theoretical framework directs at determinants and performance of a single behaviour and does not consider situations that involve choice of alternative behaviour (Sheppard et al., 1988). In both online and offline shopping environments, consumers are constantly bombarded with an array of choices, among others, stores, products, brands, sizes, colours, and so forth. The Theory of Reasoned Action also does not take into consideration the consequences or possibility of failure in achieving consumers' goal intention as it means consumers will make purchases of products and services that they cannot afford.

The Theory Reasoned Action is in fact very broad and generic with the aim to explain almost any individual's behaviour (Ajzen et al., 1980) but it fails to include the impact of contextual variables on a person's intention to perform a behaviour (Vallerand

et al., 1992). Its assumptions that consumers are rational, volitional, and systematic in behaviour and has total control over the targeted behaviour (Fishbein & Ajzen, 1975) has been heavily criticised by Sheppard et al. (1988) as consumers do not have total control over the targeted behaviour, e.g., the consumer may not perform the behaviour if the action is perceived to be too complicated or the consumer lacks the resources to do so. Taking this into consideration, in 1991, Ajzen extended the Theory of Reasoned Action with an additional variable of perceived behavioural control as a determinant of behavioural intention and with that, the Theory of Planned Behaviour was introduced (Ajzen, 1985, 1991). The Theory of Planned Behaviour enables prediction of behaviour that is not entirely under volitional control (Hansen et al., 2004; Lin, 2007). For behaviours that are not fully volitional, the Theory of Planned Behaviour with perceived behavioural control is found to be significantly better than the Theory of Reasoned Action to predict behaviours (Özer & Yilmaz, 2011).

While the Theory of Reasoned Action sets that behavioural beliefs influence an individual's attitude leads to purchase intention, the Technology Acceptance Model is more widely used in the study of internet adoption and usage (Davis, 1989) and the Theory of Planned Behaviour is more widely used in the study of purchase intention for online purchase, to be discussed in the next section.

2.3.3 The Theory of Planned Behaviour

The Theory of Planned Behaviour was developed by Icek Ajzen (Ajzen, 1985, 1991). It was built on the back of the Theory of Reasoned Action. The theory was first introduced in Icek Ajzen's 1985 article, "From Intentions to Actions: A Theory of Planned Behaviour". The Theory of Planned Behaviour is a psychological theory that was developed to explain human behaviour in a wide range of contexts, including health,

education, and business. The theory suggests that human behaviour is primarily determined by a person's intention to perform a particular behaviour.

It is one of the most prominent models in predicting behavioural intentions and actual behaviours and has been proven many times over in behavioural studies. Notable studies in the area of consumer behaviour of driving intention in online shopping are based on the Theory of Planned Behaviour, evolving the Theory of Reasoned Action into goal directed behaviour are Ajzen (1991), Ajzen & Driver (1992), Doll & Ajzen (1992), Madden et al. (1992), Mathieson (1991), Taylor & Todd (1995). It is one of the most favoured theories by e-commerce researchers in predicting online purchase intention and behaviour (Hagger et al., 2022; La Barbera & Azjen, 2021; Moon et al., 2021; Dangi et al., 2020; Sussman & Gifford, 2019; Dewberry & Jackson 2018; Olushola & Abiola, 2017; Su & Huang, 2011; Cheng & Huang, 2013; George, 2004; Hansen, 2008; Hansen et al., 2004; Hsu et al., 2006; Kim & Park, 2005; Limayem et al., 2000; Lin, 2007; Panda & Swar, 2013; Pavlou & Fygenson, 2006; Wang et al., 2007).

More than 2,000 empirical studies have used the Theory of Planned Behaviour to predict behaviour or change in behaviour in multiple fields (Ajzen, 2020). Even as far back as 1975, among social psychologists in the US and Canada, this model is said to rank highest in scientific impact score (Fishbein & Ajzen, 1975). In recent time, Simanjuntak & Putra (2021) and Moon et al. (2021) reinstated that the Theory of Planned Behaviour has shown a high level of accuracy in forecasting behavioural intentions. As such, the Theory of Planned Behaviour is adopted as one of the main underpinning theories for this study as it has been effectively used to predict and explain behaviours in the context of online shopping and overall digital space.

The description of the Theory of Planned Behaviour cannot begin without first discussing the Theory of Reasoned Action (Fishbein & Ajzen, 1975). The Theory of Reasoned Action prescribes the prediction of behaviour is associated with the attitude,

subjective norm, intention, and behaviour of an individual. Behaviour is largely predicted by the individual's behavioural intention to carry out an action whilst the behavioural intention, in the context of this study referring to purchase intention, is influenced by the attitude towards the behaviour and subjective norm. Attitude is driven by the belief that certain behaviour will result in certain outcomes and the individual's assessment of that outcome. Attitude indicates the extent of an individual preference towards an object (Fishbein & Ajzen, 1975) and subjective norm refers to the individual's perception of what people who are important to the individual think when the behaviour is performed (Fishbein & Ajzen, 1975). This means people's decision to perform certain behaviour takes into consideration what is socially accepted by others like family, friends, colleagues, and others around them (Raman, 2019).

The Theory of Planned Behaviour is an extension of the Theory of Reasoned Action (Ajzen, 1985, 1991; Fishbein & Ajzen, 1975) due to the limitation of the Theory of Reasoned Action in only predicting behaviour with volitional control. The Theory of Planned Behaviour proposed that behaviour is not completely under a person's control (Ajzen, 1985, 1991, 2020). The Theory of Reasoned Action suggests that a positive attitude and thoughts create behavioural intention of the person. In most real-life situations, the Theory of Planned Behaviour provides a better explanation of a person's behaviour when the person has actual control over the behaviour. Ajzen (1991) explained that perceived behavioural control refers to elements like skills and abilities, opportunities and resources needed to perform the behaviour. This means, with behavioural intention remains unchanged, the action that allows a favourable outcome is expected to enhance with perceived behavioural control (Ajzen, 1991; Kim & Park, 2005).

The added perceived behavioural control variable which takes into consideration non-volitional aspects of behaviour is what makes the Theory of Planned Behaviour distinct from the Theory of Reasoned Action (Fishbein & Ajzen, 1975). Armitage and

Conner (2001) gave the rationale that by including perceived behavioural control, prediction of behaviours that are not under complete volitional control is more feasible. Azjen (1991) admitted that the influence of perceived behavioural control in predicting intention varies across behaviours and situations. The variable is less predictive of intentions in situations where attitudes are dominant or where normative elements are strong. Ajzen (1991) further explained that intention is somewhat influenced by personal and environmental limitations, therefore dependent on the type of behaviour and situation. Recently, a study by La Barbera & Ajzen (2021) on the moderating role of perceived behavioural control in the Theory of Planned Behaviour framework found that attitude, subjective norm, and perceived behavioural control can predict over 70% of the variance in intentions.

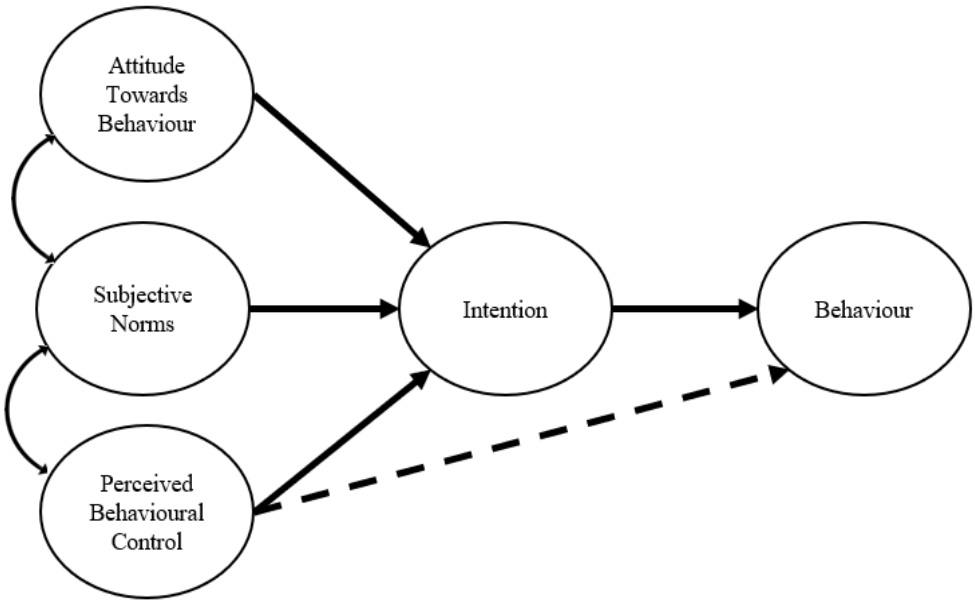
Ajzen (1991) highlighted that perceived behavioural control is comparable to Bandura (1977) concept of perceived self-efficacy (Bandura, 1977, 1982, 2010; Bandura & Adams, 1977). Bandura defines perceived self-efficacy as the belief of an individual's ability to perform according to how they feel, think and the motivations to behave from multiple sources of information, from efficacy expectations, achievements from the action, indirect experience, verbal persuasion to emotional stimulation (Ajzen & Driver, 1992). Azjen (1991) acknowledged that perceived behavioural control was adapted from Bandura and his associates' studies that explained much the role of the perceived behavioural control where they found that people's behaviour is influenced by their own capability to perform the targeted behaviour. In the Theory of Planned Behaviour, perceived behavioural control is placed within a wider framework with beliefs, attitudes, intention, and behaviour (Bandura et al., 1977; Bandura et al., 1980).

It has been implied that the three main components in the Theory of Planned Behaviour; attitude, subjective norm and perceived behavioural control directly influence intentions (Sussman & Gifford, 2019). Ajzen and Madden (1986) acknowledged this fact

and clarified that in the initial version of this theory, perceived behavioural control has an indirect path to behaviour with the assumption that perceived behavioural control represents motivational influence on an individual's behavioural intention. It is not mediated by neither attitudes nor subjective norm. In a later version, the Theory of Planned Behaviour framework (Figure 2.3) shows that perceived behavioural control can also be used to predict behaviour. If intention remains unchanged, perceived behavioural control will likely increase the effort to perform the behaviour (Ajzen, 1991; Ajzen & Madden, 1986).

Figure 2.3

The Theory of Planned Behaviour (Ajzen & Madden, 1986).



The Theory of Planned Behaviour posits that actual usage behaviour depends on both intention and ability; behavioural control (Hoffman & Novak, 1996). With positive attitude and confidence, and subjective norm added with perceived behavioural control

and behavioural intention, the individual is more likely to perform the actual behaviour compared to someone who has doubts (Ajzen, 1991; Panda & Swar, 2013). As online shopping is technological based, by including the element of behavioural control, the Theory of Planned Behaviour has better construction and ability to predict online purchase intention and behaviour with higher accuracy than the pure Theory of Reasoned Action model (Ajzen, 1991; Lim et al., 2016; Taylor & Todd, 1995).

The efficacy of the Theory of Planned Behaviour long expanded beyond its historical strength in predicting health-related behaviours (Montaño & Kasprzyk, 2015). Empirical studies showed the external validity of the model in predicting adoption and purchase behaviour of household technologies over theories like the Theory of Reasoned Action, Motivational Model and Innovative Diffusion Theory (Venkatesh et al., 2012), information technology (IT) acceptance studies (Hsu et al., 2006) and studies to understand behavioural intention and actual behaviour in online shopping and purchases (George, 2004; Gopi & Ramayah, 2007; Hansen et al., 2004; Lin, 2007; Panda & Swar, 2013; Shim et al., 2001). The Theory of Planned Behaviour even allows pro-environment researchers to identify the determinants of environmental behaviour and target the factors for interventions (Yuriev et al., 2020).

However, with all its features and proven efficacy in predicting behaviour, the Theory of Planned Behaviour is not without flaws. In 2011, 26 years after the Theory of Planned Behaviour was introduced (Ajzen, 1985), Ajzen (2011) reviewed certain issues raised by different researchers on the limitations of the theory and highlighted that its constructs measure of attitude, subjective norm, perceived behavioural control, intention and behaviour rarely exceed 0.75 or 0.80. It is reasonable to expect the correlation among constructs to have coefficients of about 0.60, indicating its limited predictive validity especially for the correlation between intention and actual behaviour (Dewberry & Jackson, 2018; Ajzen, 2011).

Building on the similar point, Bagozzi and Warshaw (1990) revealed that the Theory of Planned Behaviour is too narrow with emphasis on goals and not outcome. This weakness was repeated by Bagozzi (1992) where he argued that attitude and subjective norms are insufficient to determine intentions, and intentions alone are insufficient to motivate behaviour or an action. The Theory of Planned Behaviour was criticised for not presenting sufficient reasons for intentions to induce action. The Theory of Planned Behaviour is suitable to explore one behaviour at a time and overlooks the complexity of larger issues where an action depends on multiple behaviours. A single study is not sufficient to lead to the development of an intervention or a resolution (Yuriev et al., 2020). Ajzen (2011) also revisited the point raised by Ajzen (1991) and Conner and Armitage (1998) that the Theory of Planned Behaviour fails to include past behaviour into its framework, negating the idea that past behaviour can influence future behaviours. Perceived behaviour control could mediate past behaviours to predict future behaviours (Ajzen 1991).

Mathieson (1991) summed up that the Theory of Planned Behaviour is in fact complex and complicated to implement. It requires an initial study to identify the outcomes and control variables in the situation that it is being used. This means it cannot be applied in situations where there are different groups of people with different needs from use of the same system. However, no one criticise the model quite harshly like Sniehotta, Presseau, and Araujo-Soares (2014) where they suggested that the Theory of Planned Behaviour should be retired as soon as possible as it is a hindrance to discover new theories that could better explain health related behavioural change (Sniehotta et al., 2014).

However, the Theory of Planned Behaviour is selected as one of the underpinning theories of this study for its strengths in its robustness of its scales as it makes the least assumptions. Despite being developed in the 1980s, the Theory of Planned Behaviour

remains relevant today for several reasons: The strong generalisability and predictive validity of this theory has been assessed in empirical studies in a wide variety of journals even in recent times (Hagger et al., 2022; La Barbera & Azjen, 2021; Moon et al., 2021; Dangi et al., 2020), has proven that the theory is still highly relevant in today's environment. The Theory Planned Behaviour has been extensively studied and has been found to be a reliable predictor of human behaviour in a wide range of contexts. This empirical support gives the theory credibility and strengthens its relevance in contemporary research. The Theory of Planned Behaviour is also a flexible theory that can be applied to a wide range of contexts and behaviours. It has been successfully applied in areas such as health, environmental behaviour, consumer behaviour, and social behaviour.

2.4 Flow

Concept of Flow by Csikszenthmihalyi (1975) is considered as one of the key constructs in the proposed research model as it has been proven that interesting and immersive experience "glues" the consumer into the online environment, that drives high engagement that could lead to buying. Historically, Cheung et al. (2005) found that most researchers depended heavily on theories from the Theory of Reasoned Action family like the Theory of Planned Behaviour, the Technology Acceptance Model, and the Theory of Reasoned Action while useful theory like the concept of Flow was ignored. The Flow construct as an integral part of the current research model provides a vigorous investigation of online consumer behaviour from multiple perspectives and point of views. In the quest to acquire more online customers, the Flow concept answers the second research question on the extent of an immersive online shopping experience, being in the Flow affects attitude towards online shopping and purchase intention in the current environment. In support of Chen, Tsu and Lu (2018) who studied the impact of Flow on

mobile shopping intention and found that Flow was significantly related to attitude and purchase intention. Barta et al. (2021) highlighted the growing importance of Flow in e-commerce in the current environment given the fierce competition in the digital space. Online retailers can have an advantage over their rivals if they can provide unique and enjoyable experiences for their customers.

Technology advancement in the information economy and e-commerce has created great interest among researchers and online retailers to understand and deliver persuasive and interesting experiences to online customers (Obadă, 2013). Csikszentmihalyi (1975) explained the origin of this positive psychology of thought, the Flow. The concept can be traced back to the 1960s when Csikszentmihalyi, while studying an artist's creative process. He was struck by the phenomena on how the artist was intrinsically motivated in working on his creation ignoring physical discomfort like fatigue and hunger to complete his work and yet almost immediately lost interest in the artistic creation once it is done (Nakamura & Csikszentmihalyi, 2014). That means, Flow is the condition when one gets totally immersed in the activities they are engaged in, ignoring irrelevant happenings around them (Chang et al., 2016). Csikszentmihalyi (1975) defines Flow as the complete feeling and sensation when totally engaged and absorbed in their activity. On a higher emotional level, prolonged Flow experience has even been linked to our well-being as it means full engagement with life, the experience of deep absorption, engagement, and enjoyment (Tse et al., 2020).

Hyun et al. (2021) who studied the role of Flow in social media usage and how it impacts on shopping explained that Flow experience is a psychological state where an individual is completely involved within a situation without even noticing potential threats in the surrounding. Barta et al. (2021) explained that Flow begins with the individual's intrinsic motivation and added that consumers may value the shopping experience more than the product purchased. Mahnke et al. (2015) described Flow as the

ideal user experience that motivates purchase behaviour, engagement, and loyalty. Chang et al. (2016) also found that Flow significantly influenced cognitive trust and purchase intentions. Chen et al. (2018) in their study on the impact of Flow on mobile shopping intention integrated Flow as a mediator into the Technology Acceptance Model and found that Flow significantly related to both perceived usefulness and perceived ease of use variables and positively affecting attitude and purchase intention. The more customers gain pleasure from the shopping experience, the more positive their attitude towards the shopping experience, the more likelihood they will engage in purchase behaviour (Chen et al., 2018). This is one of the major reasons in choosing Flow to combine with the Technology Acceptance Model and the Theory of Planned Behaviour in the current research model.

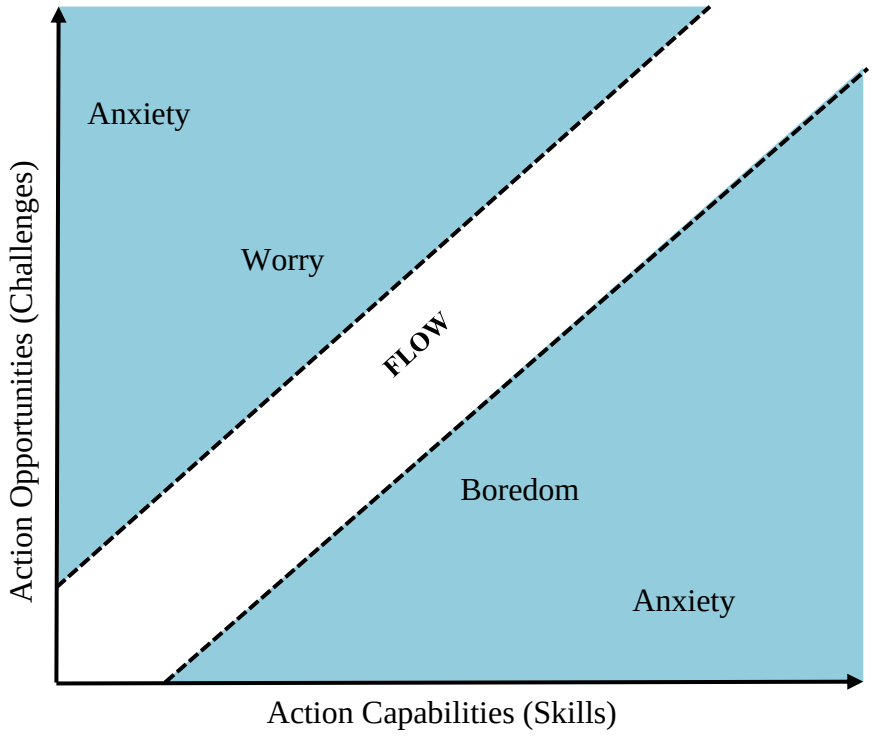
Flow concept gained popularity since the mid-1990s (Mahnke et al., 2015) as researchers begin to see that the construct is useful to explain consumers' online shopping behaviour from the perspective of compelling experience. Through the years, Flow has been researched in different online shopping situations (Hoffman & Novak, 1996; Webster et al., 1993). Hoffman and Novak (1995) studied the element of playfulness in human-computer interactions and believe the concept of play or Flow in a hypermedia environment holds consumers longer in that environment hence it is crucial to understand the Flow process and characteristics that are relevant to the navigation system of the site. In 2002, Koufaris (2002) featured Flow in an integrated model on online consumer behaviour and intention to return.

According to the Model of Flow State (Figure 2.4), when action overwhelms capabilities, stress and anxiety is experienced, on the flip side, when capabilities overwhelm action, boredom and even anxiety is experienced. Being in the Flow means action is balanced with skills, achieving an autotelic experience where consumers feel that their action has an end or purpose. Flow theory was first used in the study of online

shopping environments by Hoffman and Novak (1996). They suggested that "optimal experience" can drive the success of e-commerce marketers by creating interesting and stimulating experiences for the consumers during their interaction with the digital platform. Koufaris (2002) explained that an online shopping experience that is enjoyable tends to get consumers more engaged. They would explore more pages within the web store, which would lead to buying. Beatty and Ferrell (1998) have found that Flow effectively increases incidents of impulse buying where substantial positive emotions facilitate consumer's impulsive nature. Csikszentmihalyi (1990) stated the most pertinent point that Flow is in fact a state of pleasant experience that makes people willingly pay a price for.

Figure 2.4

Model of Flow State (Csikszentmihalyi, 1975)



Siekpe (2005), Novak et al. (2003) and Koufaris (2002) acknowledged that Flow is an important variable to explain online consumer behaviour. Siekpe (2005) stressed that benefits of Flow in online interaction for consumers include increased learning, exploring, positive experiences and sense of control over interaction with information systems. Csikszentmihalyi (1990) suggested that there are eight features in the phenomenon of the Flow state: a clear goal, a challenge that matches the person's skill, control and ease in managing the task, gives efficient and immediate feedback, focus, loss of self-awareness, lost sense of time and where the activity is done for the sake of the experience itself. Combination of any of these features creates extreme enjoyment, worth the energy put in. Hoffman and Novak (1996) suggested that positive consequences of Flow in an online environment enabled increased learning and perceived behavioural control, encouraged exploration and overall engagement. Flow attracts online consumers and favourably affects their attitudes and behaviours (Novak et al., 2000).

Flow motivates customers to review and spend more time on the website (Kabadayi & Gupta, 2005). Bridges and Florsheim (2008) added that Flow elements also provide utilitarian or functional value associated with online buying like a user's perceived skill to navigate and interactive speed. Hence, investigation in development of the digital platform, User Interface (UI) like website design and User Experience (UX) referring to the navigation system that facilitates customer journey from search for information to purchase completion is encouraged. Ensuring that it is a positive experience every step of the way leading to increased sales, profitability, and customer loyalty.

Skadberg and Kimmel (2004) studied Flow in experiencing and exploring a website. They found that Flow experience influenced important outcomes as consumers tend to learn more of the website content that leads to positive changes of attitude and behaviour including taking positive actions (Skadberg & Kimmel, 2004). Novak et al.

(2003) found that activities on the digital platform influence Flow experiences which in turn influence consumption behaviour. In the attempt to measure Flow, Saxena et al. (2004) developed the Flow Process Scale to comprehensively measure Flow in terms of consumers' skills and challenges (Saxena et al., 2004) while Smith and Sivakumar (2004) explored how Flow facilitates different dimensions and aspects of online shopping behaviours like browsing, first purchase and repeat purchases and found that different nature of Flow is necessary to address different consumer segments and various consumption occasions.

Building on the promises of Flow concept, Guo and Poole (2009) studied the complete structure of the Flow model from the perspective of antecedents and website complexity (Guo & Poole, 2009). Ozkara et al. (2017) found that Flow as a single dimension has positive significant effects on purchase intention. When Flow is approached as a multidimensional level, inconsistent results appeared as it overlooked the significance of both the utilitarian and hedonic of the research context. The most valuable antecedent for Flow is the dimension of "enjoyment", "perceived control" and "merging of action and awareness" (Ozkara et al., 2017). Notably there is somewhat similarity and overlapping of the perceived behavioural control variable and Flow in this study with elements like the challenge and skill in influencing the Flow experience and perceived behavioural control towards generating purchase intention. Hsu et al. (2012) investigated the moderating role of consumer characteristics like propensity to trust, self-confidence and willingness to buy on the relationship between Flow and online shopping behaviour. Mahnke et al. (2015) developed a grounded theory of Flow online shopping experiences for some knowledge and guidance to develop website design for Flow. For the first time, the study utilizes Flow Short Scale to measure Flow and has proven its influence on website usage and continuance intentions (Mahnke et al., 2015).

Despite heightened interests in the Flow concept, the theory has its gaps and weaknesses. Koufaris (2002) emphasized that Flow is too broad and vague. The point is echoed by Finneran and Chang (2005) and Obada (2013) who reiterated that available literature on Flow has been inconsistent and diverse. The Flow concept construct and dimensions are both ambiguous and confusing with no clear empirical models to clarify the relationship between the two, making the theory very hard to adapt (Finneran & Zhang, 2005; Obadă, 2013). Lee and Chen (2010) claimed that there have been over ten different ways of conceptualizing Flow. Even so, Finneran and Chang (2005) recommended extending the Flow model for complex digital environments. Flow is appropriate for the optimal experience with respect to consumer's interaction with the online store, but it cannot explain all types of experiences, especially goal-oriented behaviours (Barari et al., 2020).

In contrast to Novak et al. (2000) who found that the Flow state significantly drives online behaviour, Koufaris (2002) research found that Flow variable has insignificant relationship with purchases that are not planned and the intention to return to the online store. This raised the question in examining Flow in the study of online shopping behaviour. The difference in both studies is Novak et al. (2000) measured Flow for web users in general while Koufaris (2002) findings are based on consumer behaviour during a specific store visit. Bridges and Florsheim (2008) also claimed that being the state of Flow may not increase the incidents of online purchase as the phenomenon of Flow is complex, led by hedonic elements like telepresence, time distortion, arousal and challenge, means to escape from reality of life. In fact, it is more of the utilitarian elements of Flow focusing on processes like skills, control, and speed that drive shopping behaviour.

Lee and Lee (2019) study on online retail therapy based on an online fashion mall highlighted limitations of studies on user experience through cognitive perceptions like

Flow to influence customers attitudes and behaviour have discounted elements of aesthetics and content. They have proved that attractive web design and content are proven to affect consumer's attitude towards reinforcement of positive and reduction of negative mood. In a similar vein, Flow experience culminates in enjoyment and positive outcome and yet, the construct is not determined by the level of intensity of either element (Lee & Lee, 2019; Obadă, 2013), hence the vagueness and limitation of this theory.

Nevertheless, the Flow concept is relevant for online shopping behaviour studies as it provides a useful framework for understanding how individuals engage and immerse themselves with the digital platform and what factors contribute to a positive or negative experience. It continues to be widely studied and applied across a variety of fields, including psychology and business. Flow focuses on the subjective experience of engagement and enjoyment, which is a universal human experience that is relevant across cultures and contexts. Its continued relevance is evident; hence it has been selected as one of the underpinning theories in the present research model.

However, the discussion on Flow user experience cannot end without mentioning the elements of UI (user interface) and UX (user experience) and online conversion rate. UIUX of a website or application and online conversion share a symbiotic relationship that drives the success in driving purchase experience. User experience (UX) encompasses the overall feeling of enjoyment and satisfaction when interacting with computers. It increases the likelihood for customer to convert (Aji et al., 2022; Gunawan et al., 2021). User experience includes one's perception of the practical aspects such as usability, ease of use, and flow efficiency of the system (Prayoga et al., 2023). User experience (UX) is supported by the user interface (UI) of a digital platform that refers to the visual and software component of the website or application, designing and making the site more interactive (Gunawan et al., 2021). Pattinaja et al. (2023) and Centeno et al.

(2022) went to the extent to claim that the user interface can determine a user's purchase intention and drive conversion.

A well-designed and user-friendly interface can significantly influence user experience and user's decision to make a purchase. This is equally if not more important during the COVID-19 pandemic to allow customers to access a user-friendly and easy to use platform for an informed purchasing decision (Nitchhote & Nuangjamnong, 2022). Saetang (2017) found that a positive user experience increases customers' willingness to purchase and make recommendations of the product or services to others and it can be achieved by taking into consideration the customers' environment, needs and preferences from the lens of cultural characteristics, practices as a community and appropriate marketing content on the site. This finding is echoed by Centeno et al. (2022) that contextual understanding of providing customers with a better user interface and experience creates better conversions. A combined well-designed UI and UX brings vision enjoyment for users and make the platform more efficient and good to use (Gunawan et al., 2021). Enhancements to UI and UX of a website or application to improve overall Flow experience could form the main practical implications of this research in addressing the problems in low conversion rate and reducing cart abandonment.

2.5 Purchase Intention Predictor of Actual Behaviour

Studies on online purchase intention is usually based on the assumption that intention predicts behaviour (Chen et al., 2015). Core to this present study is to understand the driving forces behind customers' online purchase intention from the attitudinal, behavioural and experiential perspectives. Online purchase intention here measures consumer's intent to perform the task of making an online purchase or any form of sale transaction. It is believed that intention is the best predictor of actual behaviour (Peña-

García et al., 2020; Chelvarayan et al., 2022; Armitage and Conner, 2001). It is the cognitive representation of the consumers ready to act upon the intended behaviour and the extent that customers are willing to make a purchase at the online store (Peña-García et al., 2020; Pavlou, 2003; Ajzen, 1991). The stronger an individual's purchase intention, the more likely the behaviour of making a purchase will follow (Hagger, 2022).

Prasetyo et al. (2021) found that intention to use a certain product or service had a significant influence on actual use. Consumers spend a lot of time progressively searching for information and evaluating their options to build intention to purchase (Wang & Herrando, 2019). Building intention to purchase is the cornerstone to successful execution of intended behaviour of making a purchase. Past research on purchase intention is abundant (Chelvarayan et al., 2022; Mondol et al., 2021; Shukla et al., 2021; Vahdat et al., 2020; Tang & Lin, 2019; Pappas et al., 2016; Putro & Haryanto, 2015; Gefen et al., 2003; Hausman & Siekpe, 2009; Kamalul Ariffin et al., 2018; Kim & Park, 2005; Tsao & Tseng, 2011) but times have changed. As the world is now fresh from a global pandemic, it is the responsibility of researchers to consistently advance and test theories to apply them in multiple contexts and environments to understand factors affecting crucial consumer behaviours to enable practitioners to better strategize and optimize business returns.

Chen and Cheng (2009) highlighted that 'use' is a vague element. It is commonly explained with two different constructs, intention to use and actual use. This statement confuses the context of online shopping. Use of information system applications for online shopping is complex, and it is common for online consumers to have an underlying resistance to master it. Consumer's attitudes and intentions grow and evolve after gaining sufficient experience over time (Bagozzi, 1992; Chen & Cheng, 2009). La Barbera & Ajzen, (2021) suggested that intention is an immediate antecedent of actual behaviour.

The greater the intention to perform a behaviour, the more likely they are predicted to achieve the behavioural goal.

The actions are controlled by intentions, but there are circumstances that not all intentions are executed, some are abandoned due to change of events or environment. Intention construct is fundamental to both the Theory of Reasoned Action and the Theory of Planned Behaviour. Intention is the motivating force that influences a behaviour, indication of how much effort people will apply to perform the behaviour (Peña-García et al., 2020; Ajzen, 1985, 1991; Armitage & Conner, 2001). Chen and Cheng (2009) study proved that consumer's intention to use is an important factor and can accurately predict usage behaviour, explaining 59% of the variance in the actual use construct. However, Hoffman and Novak (1996) have argued from the perspective of perceived behavioural control construct that intentions can only lead to actual usage if the behaviour is under volitional control. This reflects Ajzen's (1985) Theory of Planned Behaviour, the more positive the attitude, subjective norm and perceived behavioural control, the stronger the intention to perform the behaviour.

Fenech and O'Cass (2001) believe that consumer's individual characteristics play an important role in the final decision to engage in an actual purchase transaction, while others found perceived risk (Akhlaq & Ahmed, 2015; Clemes et al., 2014; Javadi et al., 2012; Kassim & Ramayah, 2015; Kim et al., 2008; O'cass & Fenech, 2003) and perceived ease of use (Chen & Barnes, 2007; Gefen et al., 2003; Sin et al., 2012) affects the attitude towards online purchase. Consumers also consider attributes of the product or the brand itself before initiating purchase (Clemes et al., 2014; Moore & Mathews, 2008; Ong & Lee, 2018).

2.6 Past Purchase Experience

During the pandemic, the measure of success of online retailers is not just about increasing online sales. The real success is how much the customers were engaged and how they gradually shifted their purchases to the online platform (Dinesh & MuniRaju, 2021). Online shopping depends heavily on experience quality obtained only through past purchase experience and past purchase experience has a significant effect on future behaviour (Jensen et al., 2021; Laroche et al., 2005).

Online purchasing experience refers to previous experience in purchasing products or services through the internet (Lu et al., 2011). Mondol et al. (2021) found that shoppers with high purchase intentions from past purchase experience at an e-commerce store are less vulnerable than those who do not have prior experience. Positive past purchase experience has much impact on customers' purchase behaviour. Customers are more likely to make a purchase again. Kawaf & Tagg (2017) explored the definition of online shopping experience as constructed by users using their own words in explaining what constitutes online shopping experiences. It was found that anticipating positive holistic experience like Flow in online shopping is more common than anticipating a negative experience. The research brought to light the perspective that online shopping experience is highly individualistic, contextual, and depending on the consumer's individual past purchase experience.

Anshu et al. (2022) who examined the impact of customer experience on attitude and repurchase experience reiterated that the key to a successful and sustainable online business should not be solely on sales, but it is about retaining their valued customers. The study points to value co-creation as the significant influence on both positive customer experience and attitude towards online shopping that encourages repeat purchase behaviour. It is very crucial to set benchmarks for expectations, gaining customers' faith and gaining their confidence and acquiring loyal customers, creating

effective bonds. Hernandez et al. (2010) studied the role of past online purchase experience on customer behaviour in e-commerce, indicating that a previous experience on the internet is a prerequisite for the adoption of online shopping. The decision to purchase heavily relies on consumers' past experience as it influences their perceptions, attitude and behaviour. Past purchase experience without a doubt will affect the goal to buy (Yilmaz, 2022). Yu and Lee (2019) study stand firmly on the grounds that past purchase experience can be predictors of attitudes and future buying behaviours. This idea is echoed by Akoijam et al. (2023) who examined the panic buying behaviour during the second wave of COVID-19 claimed that customers' past purchase experience is a strong predictor of customers' attitude, intention and behaviour in the future. Yu and Lee (2019) further added that those familiar with the product have greater confidence when evaluating product attributes, to arrive at a suitable decision while those who have no prior purchase experience have limited information to evaluate product attributes and alternatives, creating hesitation and a barrier to transact.

The interest in online shoppers' experiences study is not new. As e-commerce is becoming a platform that consumers are familiar with, the industry has reached a new level of sophistication when it comes to online consumers' engagement and satisfaction on e-commerce (Martin et al., 2015) beyond the other common intangible factors like brand experience, perceived brand image and values (Shukla et al. 2021). Smith and Sivakumar (2004) explained that past online shopping experience can be examined from the behaviour of browsing, first time purchase or repeat purchase, and whether it is a planned or impulse purchase. User perceptions of e-commerce are defined by consumers' past experiences. Past experience in adopting online shopping is a powerful and reliable indicator of subsequent behaviour (Bigné-Alcañiz et al., 2008; Hernández et al., 2011; Im et al., 2008). Past purchase experience does not only affect the purchase decision, as with increased knowledge in online buying, it also builds confidence to make the purchase at

an increasing volume and value over time (Silva et al., 2018; Lin & Lekhawipat, 2014). Experiential efficiencies that can only be achieved with past experience have heavy bearing on subsequent purchase. This is particularly true for the young shoppers during the COVID-19 pandemic, being born in the digital era, they are embracing the online platform as their main retail channel. They will evaluate their experience intently with regards to product, payment methods, service offerings, customization and more (Mondol et al., 2021). As such, the researcher has included the construct of past purchase experience in the proposed research model to examine its moderating effect on the relationship between attitude and purchase intention and between Flow and purchase intention.

Kim, Ferrin, Rao (2008) indicated that consumers will habitually return to the site when they had a positive experience, and not return if they have had a negative experience (Kim et al. 2008). System users are believed to make evaluations based on prior experiences with the system (Burke, 2002). According to Parasuraman and Zhikhan (2002), traditional service quality is as important in the case of e-service quality even though consumers do not necessarily expect much empathy in an online environment, but this may evolve over time, as customers become more experienced with digital marketplace. Consumers who had positive past online shopping experiences are likely to spend more and purchase more online (Ling et al., 2010). Studies have shown that experienced online shoppers go online shopping more frequently (Lu et al., 2011) whilst inexperienced shoppers on the other hand are more hesitant to shop online (Soopramanien, 2011). As consumers' past online shopping experience determines online shopping intention (Zhu & Zhang, 2010), it is necessary that it is included in this thesis as past research have shown that it can influence online shopping intention and purchasing behaviour (Klaus & Nguyen, 2013; Lin & Lekhawipat, 2014; Monsuwé et al., 2004; Mosteller et al., 2014; Shim et al., 2001). Silva et al. (2018) and Shim and Drake (1990)

claimed that individuals with high online purchase intentions usually have past purchase experiences as it helps in reducing the element of risks and uncertainties. On the other hand, consumers who have never experienced online purchase are more conservative and concerned with risks than those who have made a purchase of product or services online (Lee & Tan, 2003). Shim et al. (2001) and Brown et al. (2003) conclude that a customer's online purchase experience significantly influences future purchase intention.

Lin & Lekhawipat (2014) particularly found online shopping experience is a primary determinant for customer satisfaction, of familiar expectations and intention to repurchase. All of which mediate the impact of purchase intention. Gefen et al. (2003) trust and familiarity study suggest that the extent of trust, perceived usefulness and perceived ease of use will alter experience which will in turn influence purchase intention. Both Gefen et al. (2003) and Sun et al. (2010) found that customers who had the previous experience with a certain e-retailer perceived the e-store to be more useful and easier to use with higher propensity to make an online transaction from it (Gefen et al., 2003; Sun et al., 2010). A study on consumer's acceptance of products in the electronic market also found similar results that when a customer has prior purchase experience, it removes the problem associated with asset specificity which reduces competition (Liang & Huang, 1998). Klaus and Nguyen (2013) summed it up appropriately that past online customer experience has a significant effect on overall customer experience and eventually behaviour.

It has been highlighted by Wu et al. (2017) that most research work in this area had mainly proposed models with the same level of online experience. Hence the researcher aims to include online purchase experience as a contextual factor and examine the moderating role of online shopping experience. To the best of the researcher's knowledge, there has not been any investigation on the relationship between Flow experience and purchase intention moderated by the consumers' past purchase

experience. It is not known how past purchase experience can impact the strengths of the relationship between these two variables.

2.7 Online Shopping During Covid Pandemic

According to John Hopkins Coronavirus Resource Center, as of 10 March 2023, the COVID-19 pandemic has affected more than 676 million people globally (John Hopkins University, 2023). The disruption has triggered economical and societal changes that would likely to cause consumers behaviours and structures to change permanently (Koch et al., 2020). In a matter of weeks, the retail landscape was reshaped (Accenture, 2020). While pandemic accelerated the adoption and growth of online shopping, the increase in online shopping cart abandonment was also evident (SaleCycle et al., 2022, Ong et al., 2022). Consumer behaviour has been described as highly habitual; it has become much less predictable after a natural disaster like the global pandemic (Sheth, 2020). This phenomenon could not be ignored by the researcher as the research fieldwork was done during when the pandemic was still a big concern for the consumers. It is inevitable that online shopping behaviour and determinants of purchase intent could be affected hence the fourth research objective is to assess whether the online purchase behaviour during COVID-19 pandemic defies well-established behavioural theories. The pandemic era invited an influx of studies on the effect of COVID-19 pandemic has on consumers' online purchase behaviour; Li et al., (2023), AbdelAziz et al., (2023), Gordon-Wilson (2022), Laparojkit & Suttipun (2022), Ellison et al. (2021), Aryani et al. (2021), Baarsma & Groenewegen (2021), Erjavec and Manfreda (2021), Moon et al. (2021), Prasetyo et al. (2021), Sheth (2020), Grashuis et al. (2020), R.Y. Kim (2020) and Koch et al. (2020).

These articles covered a range of topics related to changing consumer shopping behaviour in the context of the pandemic crisis. From a more general perspective like the growing preference for online and contactless shopping (Aryani et al., 2021; Moon et al., 2021), significant shift to online grocery shopping (Baarsma & Groenewegen, 2021; Grashuis et al., 2020) and change in consumer consumption and digital transformation (Kim, 2020b). Li et al. (2023) investigates how COVID-19 how customers' concerns and sentiments expressed on social media platforms reveals that customer expectations of online retailers has evolved in response to the pandemic. Retailers have to rethink their customer engagement strategies as factors such as transparent communications, enhanced shopping experience, safety measures and flexible return policies were prioritized. In addition to customers' new enthusiasm to express concerns and sentiments regarding their expectation of online retailers, AbdelAziz (2023) research found that customer engagement includes value co-creation with the online businesses that have significant positive effect cognitive and affective on customers' behaviour. Consumption practices were also affected by the pandemic crisis. Ellison et al. (2021) found that there was significant reduction in meals out of home and increased in online grocery shopping while Gordon-Wilson (2022) revealed emerging themes during the pandemic related to consumers' self-control and change in shopping behaviour, particularly in having less self-control over unhealthy consumptions like snacks and alcohol. For Malaysia specifically, Nair et al. (2022) found that factors like perceived severity of the crisis and self-isolation affected consumer behaviour the most rather than factors like cyberchondria and self-efficacy. To the researcher's best knowledge, at present time, there is no available study done in Malaysia on the impact of the COVID-19 pandemic on consumers' online purchase intention based on hypotheses from well-established behavioural theories.

Closer to the present research objective, Sheth (2020) identified the immediate effects of consumption and consumer buying behaviour disrupted by the COVID-19 pandemic due to lockdown and social distancing, e.g., hoarding, self-improvisation, pent-up demand, technology adoption, virtual stores reaching out to customers at their homes, blurring of work-life boundaries, reunions of families and friends and discovering of talents. Erjavec and Manfreda (2021) identified herd behaviour as the new mechanism that significantly affects behavioural intention towards online shopping however the effect of social influence was not supported. Hedonic motivation was the main determinant to drive customer satisfaction and loyalty (Prasetyo et al., 2021) and purchase intention (Koch et al., 2020). Koch et al. (2020) also found that social influence is not a determinant of purchase intention during the pandemic environment. Ong et al. (2022) explicitly study significant factors that lead to high cart abandonment which include variables from Theory of Planned Behaviour i.e., social norm, perceived behavioural control and attitude. All the factors were found to contribute to cognitive dissonance, emotional conflicts, and hesitation in completing the checkout process. The findings also highlighted the importance in enhancing customer shopping experience to address emotional conflicts and social norms to turn a browser into a buyer, reducing cart abandonment and increasing conversion rate.

In a crisis such as COVID-19 pandemic, new habits will emerge as consumers have to learn how to cope with the disruption and blurring of work, leisure, and education boundaries (Sheth, 2020). Some new structural change in buying and consumption behaviour might be long-lasting even after the pandemic eases (Kim, 2020b). There is currently a lack of studies that consider behavioural and psychological variables influencing online purchase to lead consumers to a successful transaction or dropout (Ong et al., 2022). This study will address not only the behavioural factors that influence

purchase but also identify any changes caused by the pandemic that defies what have been hypothesized in the well-established behavioural theories.

2.8 Summary

Through the various literature, it appeared that elements of consumer behavioural theories are mainly applied to online consumers behaviour. This could be due to the complexity to engage the elusive online consumer in a virtual space. Online consumer behavioural study involves many interdependent factors of which existing theories are unable to explain sufficiently. With the proliferation of internet and seamless mobility in today's lifestyle, this area study has stirred deep interests amongst researchers as it is constantly in an "under-developed" state as technology advancement and social environment are constantly evolving (Lee & Chen, 2010). Studies in this area need to be consistently updated and advanced. Beyond the major consumer behavioural theories, other factors that attract much attention in the literature include the elements of trust, perceived risk, shopping orientations, service quality, website characteristics, product type and social media (Akar & Nasir, 2015).

Through the literature review, this chapter outlines various attitudinal theories, behavioural, experiential and other motivations to explain purchase intention in online consumers. It is found that traditional theories based on the Theory of Reasoned Behaviour like the Theory of Planned Behaviour and the Technology Acceptance Model continue to be the 'go-to' theories when examining consumer behaviour in a digital environment, while the concept of Flow that explains the interactive relationship with virtual settings and past shopping experience that influences continuance of purchase intention are commonly overlooked.

The literature review reveals attitude towards online shopping, combined with the experience in system usage journey and past purchase experience are main determinants triggering online purchase intention. Attitudes towards online shopping in this study starts with acceptance of the information technology system which unlike offline channels, is virtual in nature, influencing purchase intention without the touch and feel of the actual product or services. Other important determinants of purchase intention include perceived usefulness, perceived ease of use, subjective norms, and perceived behavioural control.

Addressing low online conversion and high cart abandonment rates requires a holistic approach. Psychological theories like the Theory of Planned Behaviour and Technology Acceptance model that offer valuable insights into how to improve user perceptions and intentions, while the concept of Flow guides the engagement and immersive shopping experience. The next chapter examines the proposed research model and discusses the hypotheses that will be tested in this research. Weaknesses and limitations stated for each concept in predicting the outcome of a consumer purchase intention defines the challenges of this study in the attempt to address the research questions raised.

CHAPTER 3: RESEARCH MODEL AND HYPOTHESES

3.1 Introduction

Building on the extensive literature review in the previous chapter, Chapter 3 outlines the development of the conceptual model proposed for this research to determine main drivers of online consumer attitude, behaviour and experience in influencing purchase intention. The research model will also reveal potential relationships between the constructs.

Learning from Wilkins et al., (2019), theories in business and management are used to explain an individual's behaviour or an outcome associated with the individuals hence it can be used for prediction and explanation. Data collection is not proper research unless it is underpinned by a theory. Otherwise, the data collected merely reflects an observation or report. The proposed research model is largely based on the advances of behavioural and attitudinal theories, the Theory of Planned Behaviour and the Technology Acceptance Model and experiential theory with the concept of Flow. In today's environment, technology is ubiquitous and has become an integral part of our daily lives. It is essential to understand the factors that influence user behaviour towards technology, as this can have a significant impact on the success of technology adoption and implementation. The Technology Acceptance Model, the Theory of Planned Behaviour, and the Flow concept are used in the research model to understand user behaviour towards technology. These theories can help researchers identify the key factors that influence user behaviour and develop interventions to promote technology acceptance and adoption. Moreover, with the rapid pace of technological advancement, new technologies and digital services are constantly being introduced into the market. As a result, it is important to test combinations of theories like the Technology Acceptance Model, the Theory of Planned Behaviour and Flow to understand how users perceive and interact with new technologies and digital services as it can help researchers, technology

developers, and businesses to better understand user online behaviour to develop effective strategies to promote technology acceptance and adoption.

This chapter is organised into 4 sections. Section 3.2 discusses the research model development, followed by Section 3.3 explaining the hypotheses of each construct related to influencing purchase intention and the relationships between the constructs of the proposed model. Chapter summary is captured in Section 3.4.

3.2 Research Model

Online interaction has significantly increased in the "new normal" and continues to be so even as countries have entered into the endemic stage ("COVID-19: Malaysia" 2022). The COVID-19 pandemic has just turbo-charged the need to understand online consumer behaviour. It has now become more important than ever. In the earlier chapters, it was explained that a research model that jointly examines integrated theories is preferred for more robust findings and that there isn't a single unified research model or approach in this area of study. The researcher understands that an online consumer is both a shopper and a technology user. Therefore, this study draws on attitudinal, behavioural, and experiential based models, adopting constructs from adoption of information systems (the Technology Acceptance Model), consumer behaviour (the Theory of Planned Behaviour) and experiential psychology (Flow and past purchase experience) in an integrated research model to understand main triggers of consumer purchase intention, providing behavioural insights and direction to online retail practitioners to win online customers.

Fundamentally, the Theory of Reasoned Behaviour (Fishbein & Ajzen, 1975) predicts purchase intention is influenced by attitude towards the behaviour and subjective norm with respect to the behaviour. Ajzen (1985) then pioneered the Theory of Planned Behaviour model when attempting to extend the Theory of Reasoned Action by including

perceived behavioural control variables to allow prediction of behaviour where an individual has limited volitional control. The Theory of Planned Behaviour takes a hierarchical value-attitude-behaviour approach in relations of attitude, social norm, perceived behavioural control and online purchase intention in driving subsequent consumption behaviour (Ajzen, 1991; Hansen, 2008). As the Theory of Reasoned Action is identical to the Theory of Planned Behaviour (Bagozzi, 1992), only the Theory of Planned Behaviour is included in the discussion of research model development. The Theory of Planned Behaviour (Ajzen, 1991) can predict purchase intention with a higher degree of accuracy (Madden et al., 1992).

As online shopping resides on the internet, the Technology Acceptance Model (Davis, 1989) forms the other dominant theories in this thesis' research model. Being a more advanced theory derived from the Theory of Reasoned Action and the Theory of Planned Behaviour, the Technology Acceptance Model is expected to better predict actual behaviour (Olushola & Abiola, 2017). The Theory Acceptance Model (Davis, 1989) is one of the most referenced information system adoption models. Davis (1989) successfully validates the hypotheses that perceived usefulness and perceived ease of use are fundamentally determinants of user acceptance of information systems. The constructs are now commonly tested in research model for adoption of e-commerce (Soares, 2022; Prasetyo et al., 2021; López-Bonilla et al., 2021, Fedorko, 2018). Ma'ruf et al., (2005) has done a study on online purchase intention comparing the Theory of Planned Behaviour and the Technology Acceptance Model where both models are found to significantly influence intention to purchase, with the Theory of Planned Behaviour faring slightly better with adjusted R^2 of 0.55 while the Technology Acceptance Model is at 0.44 to explain intention to make an actual purchase.

The two other major constructs in the research model are Flow and past purchase experience. Flow construct makes up the experiential psychology aspect of online

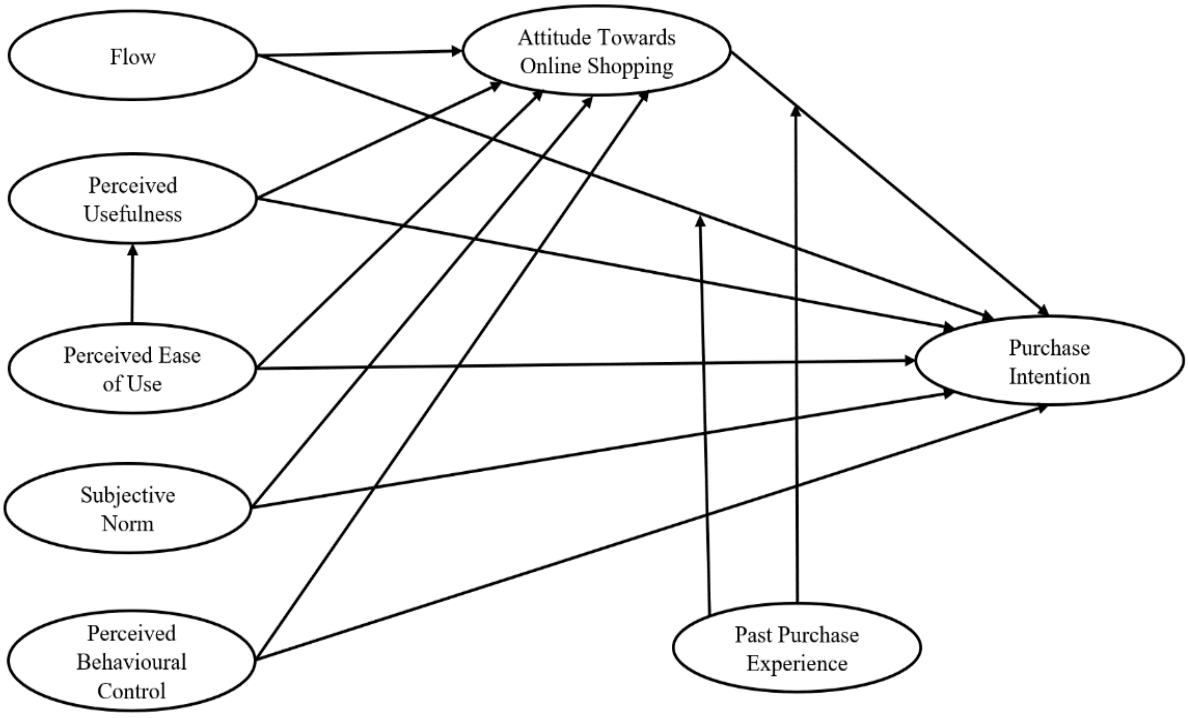
shopping experience. It is believed to influence the level of engagement that leads to purchase instances (Koufaris, 2002) while the construct of past purchase experience is considered as consumers tend to use their previous experiences to experiment, influencing purchase decisions particularly for purchase decision especially repeat purchase (Smith & Sivakumar, 2004). Past purchase experience is a reliable indicator of subsequent behaviour (Mondol et al., 2021; Bigné-Alcañiz et al., 2008; Hernández et al., 2011).

The objective of this thesis is to understand online consumer behaviour and determine the factors contributing to the purchase intention through an integrated research model. As such, it is on purpose that the researcher expanded the research model beyond combining behavioural attitudinal theories like the Theory of Planned Behaviour and the Technology Acceptance Model. For a more integrated and robust model from multiple perspectives that is relevant in today's environment, the researcher includes experiential psychology concepts like Flow (Csikszentmihalyi, 1975) and the past purchase experience constructs (Suki, 2013; Smith & Sivakumar, 2004). The improvement of this conceptual model is it takes a holistic view of customer-focused influencers of online purchase intention, looking at different angles, taking into consideration behavioural, attitudinal and experiential factors.

With that background, the proposed research model for this thesis is illustrated in Figure 3.1. Featuring variables from the Theory of Planned Behaviour (Ajzen, 1985, 2011) and the Technology Acceptance Model (Davis, 1985; Davis et al., 1989) as the main underlying framework. It hypothesised that purchase intention has a direct relationship with all of the independent variables, i.e., Flow, attitude towards online shopping, perceived usefulness, perceived ease of use, subjective norm and perceived behavioural control. It is also hypothesised that online purchase intention has an indirect relationship with Flow, perceived usefulness, perceived ease of use, subjective norm and perceived behavioural control through attitude towards online shopping.

Figure 3.1

An Integrated Research Model Combining Behavioural, Attitudinal, Experiential Theories and Past Purchase Experience



Perceived behavioural control together with perceived usefulness, perceived ease of use and subjective norm are expected to directly impact purchase intention. Within the Technology Acceptance Model (Davies 1989) constructs, perceived ease of use is also expected to have a significant impact on perceived usefulness. Flow is predicted to purchase intention (Beatty & Ferrell, 1998; Koufaris, 2002). The researcher is also keen to find out the mediation impact of attitude towards online shopping, if any, on the relationship between the main constructs and purchase intention. Past purchase experience is predicted to moderate the relationship between attitude towards online shopping and purchase intention and between Flow and purchase intention, whether the variable encourages or discourages purchase intention (Carrington et al., 2010).

As depicted in Figure 3.1, purchase intention, attitude towards online shopping, purchase intention are endogenous variables while perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, Flow and past purchase experience are all exogenous variables. After the development of the research model, the next section reviews the hypothesised relationship between the constructs.

3.3 Hypotheses Development

Hypothesis is key to any research as it provides possible findings to the research questions and suggests variables to be included in the research model (Kumar et al., 2018). This section is organised in 7 parts to address the research objectives stated in Chapter 1; refining understanding of factors that influence purchase intention, integrating constructs from multiple cognitive psychological angles like attitude, intent and behaviour and positive psychology like immersive user experience to predict online purchase intention and to determine if the causal relationships hypothesised in the traditional theories are still relevant in current environment, from perceived usefulness, perceived ease of us, subjective norm, perceived behavioural control, attitude towards online shopping, immersive shopping experience and past shopping experience on purchase intention.

Section 3.3.1 and 3.3.2 breakdown the hypotheses for the constructs in the Technology Acceptance Model and purchase intention. Covering relationships between key constructs like perceived usefulness and perceived ease of use, attitude, and purchase intention. Followed by Section 3.3.3, explaining the hypothesis for the relationship between attitude towards online shopping and purchase intention. Hypotheses for the constructs in the Technology of Planned Behaviour; namely perceived behavioural control, subjective norm, attitude and purchase intention explained in Sections 3.3.4 to 3.3.5. Section 3.3.6 is on the Flow construct on attitude and purchase intention. Lastly,

Section 3.3.7 explains hypotheses on the moderation effect of past purchase experience between attitude towards online shopping and purchase intention and between Flow and purchase intention. This chapter ends with the summary list of hypotheses for this thesis and the visualisation of the hypotheses in a research model.

3.3.1 Perceived Usefulness and Perceived Ease of Use

Perceived usefulness for online shopping can be understood from the perspective of its advantages compared to offline shopping (Chin & Goh, 2017; Chiu et al., 2009) referring to the extent to which consumers feel the online shopping provides more value and efficiency like time saving, minimise cost and convenience to their everyday lives. Perceived usefulness also explains consumers' perceptions that online shopping enhances their shopping experience (Monsuwé et al., 2004). However, if at the same time the individual thinks that the system is very difficult to use and requires too much effort, there will not be any action performed as the effort outweighs the benefit of using the system. Hence, perceived ease of use is another aspect of usefulness that is theorized to influence perceived usefulness (Davis, 1989).

Gefen and Straub (1997) indicate that the relationship between perceived usefulness and perceived ease of use remains ambiguous and insignificant, but many other researchers would later disagree and have proved otherwise. Moon and Kim (2001), Van der Heijden et al. (2003), Pavlou (2003) and Chiu et al. (2009) have empirically proven the positive relationship between perceived ease of use and perceived usefulness. Even Gefen and Straub (2000) themselves later found and confirmed the significant relationship between the two constructs. Hence, in the context of online shopping, it is reasonable to presume that the two constructs are closely linked as when an online shopper finds purchasing at an online store is effortless, there is a natural inclination to perceive it as useful (Ramayah & Ignatius, 2005). There is a direct impact of perceived

ease of use on perceived usefulness. The relationship between the two constructs is proposed with the following hypothesis:

H_1: Perceived ease of use positively influences perceived usefulness.

3.3.2 Perceived Usefulness, Perceived Ease of Use on Attitude and Purchase Intention

Together, perceived ease of use and usefulness has a positive significant influence on online shopping intention and purchase decisions. The two variables are expected to influence the individual's attitude and intention to use the system (Tamana et al., 2019). When an online platform is easy to use, simple and has a smooth Flow, customers will want to consider online shopping (Manwaluddin et al., 2018) and eventually make a purchase.

The Technology Acceptance Model postulated individual beliefs to determine attitude and behaviour toward technology. It was also indicated that online purchase intention can be directly influenced by perceived usefulness specifically in acceptance of online shopping (Cho & Fiorito, 2009). This thesis supports previous research on the notion that higher the usefulness, the higher consumer attitudes towards intention to buy (Putro & Haryanto, 2015). Several other studies have also shown similar results of perceived usefulness directly influencing purchase intention (Athapaththu & Kulathunga, 2018; Gefen et al., 2003; Hassanein & Head, 2007; Wei et al., 2018). In the research model, perceived usefulness is suggested to have indirect influence on purchase intention mediated by attitude towards online shopping. Therefore, the proposed hypotheses of the relationships between perceived usefulness and attitude towards online shopping and purchase intention are as follows:

H_2: Perceived usefulness positively influences attitude towards online shopping.

H_3: Perceived usefulness positively influences online purchase intention.

H_4: There is a positive relationship between perceived usefulness and purchase intention, mediated by attitude towards online shopping.

Perceived ease of use influences attitude towards online shopping. Customers who perceive less complexity in using the internet are more likely to use it for purchasing products (Pavlou, 2003). Perceived ease of the internet use positively influenced attitude towards e-commerce and online shopping in general and inevitably determines use of internet for purchase (Kim & Park, 2005). Perceived ease of use has an indirect effect on online purchase intention, mediated by attitude towards online shopping (Chin & Goh, 2017). This present research model also examines the direct relationship between perceived ease of use and purchase intention. The proposed hypotheses of the relationships between perceived ease of use and attitude towards online shopping and purchase intention are as follows:

H_5: Perceived ease of use positively influences attitude towards online shopping.

H_6: Perceived ease of use positively influences online purchase intention.

H_7: There is a positive relationship between perceived ease of use and purchase intention, mediated by attitude towards online shopping.

3.3.3 Attitude Towards Online Shopping and Purchase Intention

In this present study, attitude towards certain behaviour can predict a person's intention to engage and perform that behaviour (Hansen, 2008). Attitude developed over time and is often difficult to change. It is the positive disposition that an individual has with a certain behaviour (Peña-García et al., 2020). Attitude refers to a person's perception of a favourable or unfavourable behaviour. The more favourable attitude, the higher the propensity for an individual to be engaged in the behaviour (Hansen, 2008). Wu et al. (2018) confirmed that attitude plays a crucial role in online shopping decision

making. The more positive attitudes towards online shopping, the stronger the purchase intent (Chin & Goh, 2017).

Previous studies in e-commerce (Goldsmiths & Bridges, 2000; Putro & Haryanto, 2015; Shim et al., 2001) showed that attitude towards online shopping significantly influenced online shopping intention, significantly increasing the likelihood to make an online purchase (Kim and Park, 2005). As such, in the proposed research model in this present study, attitude plays an important role as the immediate antecedent in influencing purchase intention. This study proposed the following hypothesis:

H_8: Attitude towards online shopping positively influences online purchase intention.

3.3.4 Subjective Norm on Attitude Towards Online Shopping and Purchase Intention

Subjective norm is the first construct in our proposed research model derived from the Theory of Planned Behaviour model. The model posits that the relationship between subjective norm and behaviour is fully mediated by intentions (Ajzen, 1991). Ajzen (1991) and Orapin (2009) broadly defined subjective norms as external elements such as social pressure that may influence an individual's decision to perform or not to perform a certain behaviour. This means consumers can be influenced by people who are important to them on their decision to perform the online transaction, especially crucial in the social media context where an individual can be influenced by someone on his decision to perform the online transaction (Sin et al., 2012), even more so now that technology allows social commerce where consumers make a purchase directly from their social media account without having to do it at the e-commerce platform (Hyun et al., 2021; Sin et al., 2012).

Subjective norm could influence attitude towards online shopping due to the social pressure of what behaviour is "approved" or "disapproved" by others (Conner &

Norman, 2015). Manning (2009) who did a meta-analysis on the effect of subjective norm on behaviour in the Theory of Planned Behaviour, reviewed 196 articles and found that in fact, it is the influence of subjective norm on intention that gotten the most attention from researchers and very few inquiries on subjective norm direct influence on behaviour. Davis et al. (1989) also explained that the subjective norm shows that social pressures from friends and families has only a significant influence on intention. In fact, recommendations by third parties or subjective norm were the second most influential factor to influence online consumers' purchase intention, after perceived behavioural control (Orapin, 2009). In the present research model. It is hypothesised that subjective norm has a direct positive relationship with the attitude towards online shopping and purchase intention. The indirect relationship between subjective norm and purchase intention mediated by attitude is also examined to determine if the attitude variable has a mediation effect that could change the relationship between subjective norm and online purchase intention. The proposed hypotheses are as follows:

H_9: Subjective norm positively influences attitude towards online shopping.

H_{10}: Subjective norm positively influences online purchase intention.

H_{11}: There is a positive relationship between subjective norm and purchase intention, mediated by attitude towards online shopping.

3.3.5 Perceived Behavioural Control on Attitude Towards Online Shopping and Purchase Intention

The Theory of Reasoned Action became the Theory of Planned Behaviour only with the additional concept of perceived behavioural control to accommodate the non-volitional circumstances, possibly in all behaviours. Perceived behavioural control is highly likely to affect intention (Ajzen, 2002). As online shopping is technological based,

by including the element of behavioural control, the Theory of Planned Behaviour has better construction and ability to predict online shopping behaviour with high accuracy.

Perceived behavioural control refers to elements like skills, access to resources and opportunities needed to use the system to influence behaviour. It is posited that with intention remains unchanged, the effort that will bring about a favourable outcome is likely to enhance with perceived behavioural control (Ajzen, 1991; Kim & Park, 2005). Resources and opportunities are not equally available to all. There should be some extent of behavioural achievement. Interestingly, in the initial formulation of the Theory of Planned Behaviour (Ajzen, 1985), perceived behavioural control played a moderating role on the relationship between attitudes and subjective norm on the extent of their influence on intention. However, as most empirical studies focus on main effects, perceived behavioural control is later treated as a direct determinant of intention, with equal standing as attitude and subjective norm (Ajzen, 2020). In more recent studies, Moon et al. (2021) found that perceived behavioural control continues to have a positive influence on the intention to shop online. On the other hand, if perceived behavioural control performance is low, there will be lack of control of the behaviour, diminishing the intention to perform the intended behaviour (Ajzen, 2020).

Perceived behavioural control takes into consideration a person's perception of how easy or difficult to perform the specific action of interest. When perceived behavioural control clearly reflects a true situation, it provides insight about whether the person can control over the behaviour in the situation and can therefore be used as a direct indicator of behaviour (Ajzen, 2002). Online shopping requires capability and resources to access the internet. Based on the Theory of Planned Behaviour model (Ajzen, 1985, 1991), perceived behavioural control can influence outcome of the action when an individual perceives ease, capability and confidence in performing a behaviour. Armitage and Conner (2001) did a meta-analytic review on the efficacy of the Theory of Planned

Behaviour reviewed 161 journal articles and book chapters have found that perceived behavioural control has strong influence on intention.

In this study, perceived behavioural control is logically assumed to have both direct effect with purchase intention and indirect effect via interaction with attitude in influencing purchase intention. Therefore, this study proposed the following hypotheses:

H_{12}: Perceived behavioural control positively influences attitude towards online shopping.

H_{13}: Perceived behavioural control positively influences online purchase intention.

H_{14}: There is a positive relationship between perceived behavioural control and purchase intention, mediated by attitude towards online shopping.

3.3.6 Flow on Attitude Towards Online Shopping and Purchase Intention

Someone who is in the Flow shifts into a kind of experience when they become completely immersed in performing an activity. Flow is a useful variable to explain web browsing behaviour from the perspective of enhancing compelling online consumer experiences (Hoffman & Novak, 1996; Koufaris, 2002; Siekpe, 2005; Smith & Sivakumar, 2004). Hoffman & Novak (1996) proposed the positive impact of Flow in an online environment as it enabled increased learning and perceived behavioural control, encouraging exploration and overall engagement. Flow "glues" the consumer into the online environment. When customer's is relatively high in the willingness to make a purchase or on self-confidence, the influence of Flow on online shopping behaviour is optimised (Hsu et al., 2012). Koufaris (2002) explains that when online consumers who enjoy online shopping experience tend to be more engaged and increase exploratory browsing in the e-commerce site that would lead to buying. Chen et al. (2018) in their study on the impact of Flow on mobile shopping intention found that Flow positively influences customers' attitude and purchase intentions. The more customers gain pleasure

from the shopping services, the more positive their attitude towards the shopping experience, the more likelihood they will engage in purchase behaviour (Chen et al., 2018).

Flow has been proven to have a positive relationship with purchase intention (Hyun et al., 2021; Lim, 2014; Bridges & Florsheim, 2008; Martins et al., 2019; Richard & Chandra, 2005). Flow was also found to have a direct influence on attitude. Consequently, attitude has been found to fully mediate the relationship between Flow and intention to make an online purchase (Obadă, 2013; Korzaan, 2003). Therefore, this study proposed the following hypotheses:

H_{15}: Flow positively influences attitude towards online shopping.

H_{16}: Flow positively influences online purchase intention.

H_{17}: There is a positive relationship between Flow and purchase intention, mediated by attitude towards online shopping.

3.3.7 Moderation Effect of Past Purchase Experience

Acquiring online customers depends on how much they are engaged and how they eventually prefer to shift their purchases to the online platform (Dinesh & MuniRaju, 2021). Past purchase experience is a reliable indicator of subsequent purchase, and it is one of the key factors that is very likely to influence consumers' shopping behaviour (Yilmaz, 2022; Jensen et al., 2021; Mondol et al., 2021). Most research work in this area had mainly proposed models with the same level of online experience (Wu et al., 2017). In enhancing the findings beyond the combination of the three main underlying theories, the researcher heeds the suggestion by Pappas et al. (2014); given the importance of past online purchase experience in affecting online shopping behaviour, it would be interesting to examine the effect of different levels of experience on online shopping behaviour. The past purchase experience variable in this research has been added as a contextual factor,

as the moderating role between attitude and purchase intention and between attitude and purchase intention. The researcher is also curious to advance Hernandez et al. (2010) understanding that the past experience acquired from previous online purchases is not stable. It changes as perception of e-commerce changes. It was hypothesized that the effect of attitude on the intention to purchase is weaker for experienced e-customers than for new customers. However, Hernandez et at; (2010) research found that it was not the case. Past purchase experience has an insignificant moderating effect on the relationship between attitude towards online shopping and purchase intention for individuals who had acquired past purchase experience.

Both Akoijam et al. (2023) and Yu and Lee (2019) stated that customers' past purchase experience has a strong positive relationship predictor of customers' attitude, intention and behaviour in the future. Earlier research findings (Monsuwé et al., 2004; Shim et al., 2001) have shown that past shopping experiences directly influence online shopping intention. Lin & Lekhawipat (2014) found that online shopping experience is the main influencer of the level of customer satisfaction and repurchase intention. Lastly, Shim, Eastlick, Lotz, Warrington (2001) found that there are both direct and indirect relationships between attitude towards online shopping and past purchase experience and online purchase intention.

The moderating role of past purchase experience on the relationship between Flow experience and purchase intention is unexplored in the existing body of knowledge. The findings could help fill the theoretical gap. Given that past purchase experience is an important construct in today's environment but not featured in any of the underpinning theories, the researcher proposed that past purchase experience is posited as a moderator between Flow and purchase intention and between attitude towards online shopping and purchase intention. This is to examine if the past purchase experience factor could affect

the relationship between the key constructs in the main theories with purchase intention. Therefore, this thesis proposed the following hypotheses:

H_{18}: There is a positive relationship between Flow and purchase intention moderated, by past purchase experience.

H_{19}: There is a positive relationship between attitude towards online shopping and purchase intention, moderated by past purchase experience.

3.4 Summary

Extensive literature review presented in the previous chapter serves as the base and rationale for the development of the research model in this chapter. This chapter provides an in-depth discussion of the proposed conceptual model structure of factors influencing online purchase showcasing an integration of consumer behavioural theories with regards to attitudes, behaviour and experience, the Theory of Planned Behaviour (Ajzen, 1991; Fishbein & Ajzen, 1975), with regards to technology adoption; the Technology Acceptance Model (Davis, 1989), combined with experiential elements like the psychology concept of Flow (Csikszentmihalyi, 1975) and past shopping experience to explain online shopping behaviour in an integrated research model of online consumer behaviour to understand main triggers that lead to purchase intention. The hypotheses to be tested in this research are expediently listed in Table 3.1 while Figure 3.2 presents the integrated research model and the hypotheses.

With reference to the fourth research objective, to determine whether consumer online purchase behaviour during COVID-19 pandemic defies well-established behavioural theories, the researcher will observe the deviation or anomalies from the established hypotheses that challenges the understanding of online consumer behaviour leading to purchase intention. Results that contradict what was expected based on established hypotheses will be reported.

Table 3.1

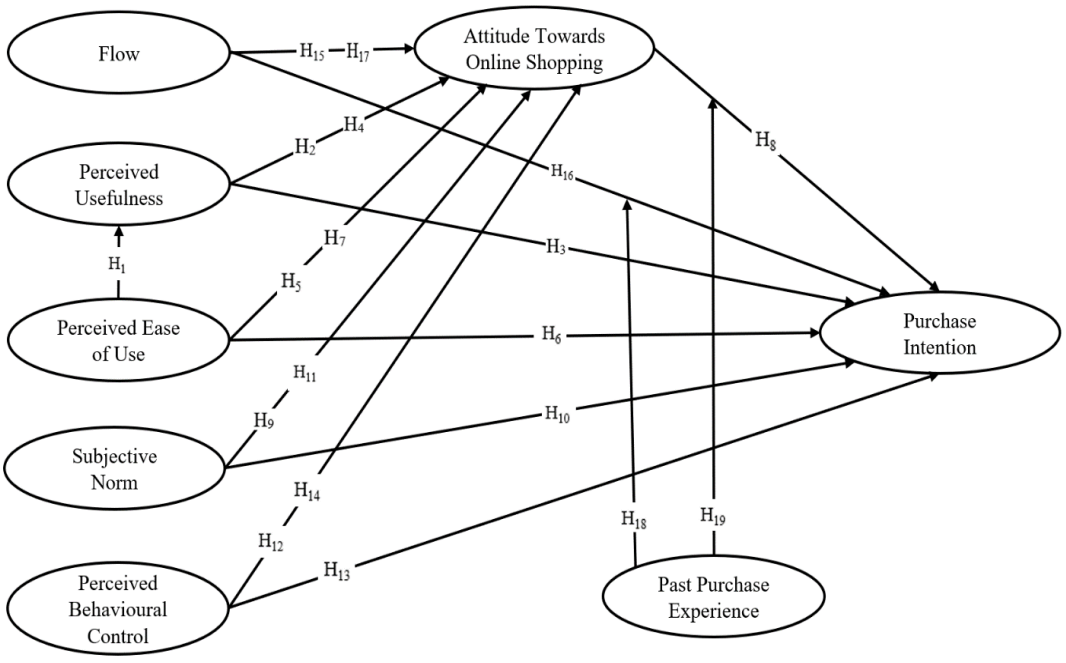
Summary of Research Hypotheses

The Technology Acceptance Model
H_1: Perceived ease of use positively influences perceived usefulness.
H_2: Perceived usefulness positively influences attitude towards online shopping.
H_3: Perceived usefulness positively influences online purchase intention
H_4: There is a positive relationship between perceived usefulness and purchase intention, mediated by attitude towards online shopping.
H_5: Perceived ease of use positively influences attitude towards online shopping.
H_6: Perceived ease of use positively influences online purchase intention.
H_7: There is a positive relationship between perceived ease of use and purchase intention, mediated by attitude towards online shopping.
H_8: Attitude towards online shopping positively influences online purchase intention.
The Theory of Planned Behaviour
H_9: Subjective norm positively influences attitude towards online shopping.
H_{10}: Subjective norm positively influences online purchase intention.
$H_{11:}$ There is a positive relationship between subjective norm and purchase intention, mediated by attitude towards online shopping.
H_{12}: Perceived behavioural control positively influences attitude towards online shopping.
H_{13}: Perceived behavioural control positively influences online purchase intention.
$H_{14:}$ There is a positive relationship between perceived behavioural control and purchase intention, mediated by attitude towards online shopping.
Concept of Flow
H_{15}: Flow positively influences attitude towards online shopping.

H_{16}: Flow positively influences purchase intention.
H_{17}: There is a positive relationship between Flow and purchase intention, mediated by attitude towards online shopping.
Moderation Effect of Past Purchase Experience
H_{18}: There is a positive relationship between Flow and purchase intention moderated, by past purchase experience.
H_{19}: There is a positive relationship between attitude towards online shopping and purchase intention, moderated by past purchase experience.

Figure 3.2

Proposed Research Model



CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

This chapter covers in-depth discussion of the research method to analyse the theoretical model and test the hypotheses described in Chapter 3. It is the work plan and the activities necessary to complete this research paper. Section 4.2 explains the research philosophy and Section 4.3 describes the research design and approach, and to justify the decision to use a quantitative survey method for this research. The researcher then goes in-depth into the survey instrument to measure the variables and proposed measurement scales in Section 4.4 and 4.5. Section 4.6 explains the questionnaire design and Section 4.7 proposes sampling procedures, sample size and sample design.

Section 4.8 explains the data collection process and approach followed by Section 4.9 discusses the data analysis procedures including structural equation model for reliability and validity testing, and also assessing fitness of measurement model, normality for data distribution and analysing the structural model. Section 4.10 summarises this chapter on research methodology while Section 4.11 forms the conclusion of overall Chapter 1 to 4 of this thesis.

4.2 Research Philosophy

Research philosophy is about the way the world is viewed (Thornhill et al., 2009) or a set of beliefs that guides our actions (Creswell & Creswell, 2017). Ontology refers to the nature of reality or being (Proctor, 1998), epistemology explains what can be known and what it means to know (Crotty, 1998; Thornhill et al., 2009) and methodology describing what can be discovered by the researcher. The consequential effect is when ontology view influence epistemological view which will then affect the choice of methodology (Holden & Lynch, 2004). It means that our research philosophy; beliefs and

assumptions will guide the adoption of research methods, whether it is qualitative, quantitative or mixed approach (Proctor, 1998).

The five common major research philosophies discussed in literature are positivism, critical realism, interpretivism, post-modernism and pragmatism (Saunders et al., 2016). For this study, the researcher chooses the research paradigm of positivism. Positivism originates from the philosophical stance of natural scientists. It assumes reality is external and behaviour can be investigated like a non-living object hence knowledge is achieved based on observed effects (Proctor, 1998). Saunders et al. (2016) explained that positivists focus on strictly scientific empiricist methods designed to yield pure data. A positivist researcher remains impartial and disassociated from the research and data, in order not to influence the research findings (Crotty, 1998). Epistemological thinking focuses on realizing observable and measurable facts. Countering the thinking of positivists are critical realism and interpretivism that explain what people see and experience (Saunders et al., 2016) and the need to respect the differences between people and objects respectively.

Different groups of people have different experiences in the same environment (Saunders et al., 2016). Social researchers need to have a good grip of the subjective understanding of social actions and that interpretation of the researcher is critical in this approach (Holden & Lynch, 2004). Post-modernism goes even further in its criticism of positivism. It stresses on the role of language and power relations. It is believed that any sense of order is baseless except when it is decided collectively, shaped by our language and power relations and beliefs that dominate a particular situation (Saunders et al., 2016). And lastly, pragmatism questions whether the difference in assumptions really matters. A pragmatist focusses in approaching the research problems and finding answers to the research questions with the aim to contribute useful directions for future practice (Saunders et al., 2016).

Despite the criticism on the positivism approach that led to development of multiple research philosophies with slight deviation from one another, the researcher decides that it is the best approach for this study. Like empirical science, positivist principles are objective, humanly detached, free of personal opinions or prejudices. Data collected would be quantifiable and measurable to identify causal relationships, to explain a certain common behaviour (Crotty, 1998). Reliability is key where any part of the research should be able to be repeated, verified and checked its scientific accuracy (Chapman et al., 2005) and lastly, the research will produce mainly statistical data via implementation of a questionnaire survey with individuals who are exposed to the behaviour of online shopping; to investigate factors that will influence the behaviour of browsing with the intention to purchase that will result in an actual purchase on an e-commerce site. The researcher adopts a hypothetico-deductive method with a positivist view that goes through a process of hypothesising common laws of behaviour and then make deductions to demonstrate the truth or untruth of the hypotheses (Holden & Lynch, 2004; Proctor, 1998).

4.3 Research Design

The research design outlines the plan and provides the guidelines to a study to achieve its objectives (Kumar et al., 2018). Based on the research questions, objectives and research model which is based on a few major well-established theories and derived hypotheses, a quantitative method is considered for this study. Quantitative method is descriptive in nature, uses hypotheses and highly structured to provide an accurate snapshot of certain aspects of consumer sentiments in the market environment as opposed to qualitative method is more exploratory for researchers who seek insights into a problem and highly unstructured and flexible (Kumar et al., 2018). Malhotra et al. (2016) explained that quantitative research is a methodology that finds ways to quantify the data

with statistical data analysis. Quantitative research obtains data and statistics via survey questionnaires or structured interviews. The data is processed and interpreted to help answer the research questions and objectives with simple techniques like tables, graphs, and indices to complex statistical modelling to statistically explain relationships between variables (Saunders et al., 2016).

In conclusion, the decision on which research design is based on the researcher's philosophy or perspective, research objectives, research questions, the extent of thoroughness required and practical considerations like time, cost, and geography (Sekaran & Bougie, 2016). This study applies a survey-based quantitative method that involves direct questioning of respondents. Some of the advantages with survey-based methods is that it allows a diversity of questions and flexibility of stimuli, sample control and large quantity of data from each respondent. Large amounts of data can be collected promptly and efficiently as this method is also low cost to implement. However, one major downside with survey based quantitative research is that there is no one on site to explain anything to the respondents or clarify any open-ended questions., Counter argument to that is when there is no one to explain anything, it will eliminate all biasness (Kumar et al., 2018).

Compared to the qualitative method, the quantitative approach is also unable to provide in-depth insights. However, the upside is it allows testing of hypotheses and determines reliability and validity of the variable measurements (Malhotra et al., 2016). This is aligned with the requirements for this research that seeks empirical data for analyses, theory-testing, hypothetico-deductive approach, explanatory and confirmatory in nature. Even better, quantitative survey-based is the most common method used in numerous studies on online shopping behaviour specifically in understanding purchase intention (Shukla et al., 2021; Chelvarayan et al., 2022; Mondol et al., 2021; Sharif &

Naghavi, 2021; Peña-García et al., 2020; Vahdat, et al., 2020; Akram, 2018; Putro and Haryanto, 2015; Lee, 2009)

4.4 Survey Instrument

A survey is a common research method where it allows collection of a considerable amount of data that provides information that describes, compares and explains consumers knowledge, attitudes and behaviour (Gray, 2013). Survey instruments are usually in the form of questionnaires put together by going through a process that starts with searching for relevant literature, followed by constructing, evaluating, and finally documenting the instruments (Kitchenham & Pfleeger, 2002). Hair et al. (2014) has proposed that survey instruments should be developed based on topics that are sufficiently discussed in past literature. Only then the literature can operationalize the constructs. The advantages of standard instruments ensure that assessment for validity and reliability is sufficiently tested, and it allows the new results to be compared with past results (Kitchenham & Pfleeger, 2002).

As the main motivation for this research is to refine the understanding of factors that influence online purchase from attitudinal, behavioural and experiential perspectives, relevant landmark literature and highly cited literature on established theories in this area have been thoroughly reviewed. To ensure that the survey instruments used in this research are reliable measurement scale items, care is taken to adapt survey items that embody definitions and dimensions of the constructs, of which have been examined and discussed in the literature review. The following section explains the adapted measurement scale items from behavioural attitudinal theories like the Theory of Planned Behaviour (Ajzen, 1985), the Technology Acceptance Model (Davis, 1985, 1989) and the Flow concept (Csikszentmihalyi, 1975), and the past purchase experience (Smith & Sivakumar, 2004; Suki, 2013).

This study has 8 constructs; perceived usefulness (PU), perceived ease of use (PEOU), subjective norm (SN), perceived behavioural control (PBC), attitude towards online shopping (ATU), Flow (FL), purchase intention (PI) and past purchase experience (PPE). It presents a total of 19 hypotheses comprising 12 hypotheses on direct and 7 indirect relationships between the variables. Indirect relationships are made up of 5 mediating and 2 moderating hypotheses. Key variables in this research are taken from established theories being operationalised and validated by scores of established literatures and validated numerous times over by various researchers in the field.

4.4.1 User Acceptance of Information Technology Systems

Davis' (1985) Technology Acceptance Model helped to better understand factors that lead to user's acceptance of the information technology systems, providing a basis for a practical method to test user acceptance (Davis, 1985). The Technology Acceptance Model built on the theory that an individual's behavioural intention of system use is based on two key variables, perceived usefulness, and perceived ease of use (Davis, 1989). The Technology Acceptance Model has been successfully adopted as a theoretical framework for online shopping behaviour as the constructs determine the attitude towards the use of a technology which in turn influences intention for the actual usage (Davis, 1989; Olushola & Abiola, 2017).

i) Perceived usefulness in the Technology Acceptance Model refers to the level of which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). In the context of online shopping, it refers to the feeling that a shopper holds towards improvement in shopping experience when it is done online. For this study, to measure perceived usefulness, a total of six survey items (Table 4.1) adapted from Davis (1989) original study on user acceptance of information technology at the workplace. Similar items have been adapted by notable

studies of online buying behaviours from the perspective of technology acceptance like Chen and Barnes (2007), Lin (2007) and Chen et al. (2002).

Table 4.1

Perceived Usefulness Scale Items

Variable	Scale Item	Source
Perceived Usefulness (PU)	PU1: Using online to shop would enable me to accomplish my tasks more quickly. PU2: Online shopping helps to improve my overall performance in getting things done. PU3: Using online to shop increases my productivity. PU4: Using online to shop is effective to get things done. PU5: Using online to shop is easy. PU6: Using online to shop is useful.	(Davis, 1989)

ii) Perceived ease of use describes the degree to which a person believes that using a particular system would be free of effort, without any difficulty (Davis, 1989). Davis (1989) hypothesised that the two specific variables, perceived usefulness and perceived ease of use are key determinants of user acceptance. Perceived ease of use is sometimes positioned as the antecedent to perceived usefulness (Chen et al., 2002; Mathieson, 1991; Ramayah et al., 2003; Sin et al., 2012). Like perceived usefulness,

the perceived ease of use construct is measured with another six items (Table 4.2) refined and streamlined by Davis (1989).

Table 4.2

Perceived Ease of Use Scale Items

Variable	Scale Item	Source
Perceived Ease of Use (PEOU)	PEOU1: Learning to shop online is easy for me. PEOU2: I find it easy to shop online. PEOU3: I find interaction with the information system during online shopping is clear and understandable. PEOU4: I find online shopping flexible to interact with. PEOU5: I find it easy to be skilful at online shopping. PEOU6: I find shopping online is easy to do.	(Davis, 1989)

4.4.2 Attitude Towards Online Shopping and Predicting Purchase Intention

The Theory of Planned Behaviour developed by Icek Ajzen (1985) and it has been validated many times over in behavioural studies (Hagger et al., 2022; La Barbera & Ajzen, 2021; Moon et al, 2021; Dangi et al., 2020; Bagozzi & Dholakia, 2002; George, 2004; Kim & Park, 2005; Lin, 2007; Olushola & Abiola, 2017; Taylor & Todd, 1995). According to Ajzen (2006), attitude towards a behaviour, subjective norm, and perceived behavioural control shape behavioural intention. This theory is operationalized with 5 constructs; attitude towards the behaviour (ATU), subjective norm (SN), perceived

behavioural control (PBC) and purchase intention (PI). All instruments are adjusted to adapt to the framework of online shopping and online purchase.

i) Attitude towards behaviour refers to the level of favourable or unfavourable feeling a person has about online shopping. This research measures attitude towards the behaviour with 3 survey items (Table 4.3) adapted from Shih and Fang (2004) who examined behaviour in internet banking in Taiwan. The items were adapted by Shih and Fang (2004) from previous research by Taylors and Todd (1995) who adapted from the original researchers Ajzen and Fishbein (1980) and Azjen (1985, 1991). Gopi and T. Ramayah (2007) adapted the same items to study consumers' intention to trade stocks online.

Table 4.3

Attitude Towards Online Shopping Scale Items

Variable	Scale Item	Source
Attitude towards online shopping (ATU)	ATU1: I think online shopping is a wise idea. ATU2: I think online shopping is a good idea. ATU3: I like online shopping.	(Shih & Fang, 2004)

ii) Subjective norm describes how people who are important to the consumer feel if they should or should not make an online purchase. Subjective norm is measured by obtaining the extent of respondents' agreement to two statements; people who are important to them think that making an online purchase is a good idea and that they would approve of me making an online purchase. The two survey items (Table 4.4)

are adapted from Bagozzi and Dholakia (2002) research on behavioural intention in virtual communities.

Table 4.4

Subjective Norm Scale Items

Variable	Scale Item	Source
Subjective Norm (SN)	SN1: Most people who are important in my life think that I should make a purchase online. SN2: Most people who are important in my life whose opinion I would value, would approve of me making a purchase online.	(Bagozzi & Dholakia, 2002)

iii) Perceived Behavioural Control refers to the level of control a consumer has in performing the online purchase. It does not happen just on consumer's decision to act as online shopping requires skills, opportunities, and resources (Shim et al., 2001). This research measures perceived behavioural control with three survey items (Table 4.5) adapted from George (2004) in a study based on the Theory of Planned Behaviour to examine the relationships between online purchase behaviour and beliefs of privacy and trust.

Table 4.5

Perceived Behavioural Control Scale Items

Variable	Scale Item	Source
Perceived Behavioural Control (PBC)	PBC1: I am capable of buying things online. PCB2: Online shopping is entirely within my control. PCB3: I have the resources and the knowledge and the ability to buy things online.	(George, 2004)

iv) Purchase intention explains a customer's interest to purchase goods or services (Shan & Ong, 2018), the extent of intent and willingness to perform a transaction on a website (Chen & Barnes, 2007; Pavlou, 2003). It also refers to the likelihood for repeat purchase and repeat visits (Hausman & Siekpe, 2009) in the future. Purchase intention is measured with four survey items (Table 4.6) by Yoo and Donthu (2001) when developing a scale to measure for perceived quality of an e-commerce site. Similar items were adapted by Hausman and Siekpe (2009).

Table 4.6

Purchase Intention Scale Items

Variable	Scale Item	Source
Purchase Intention (PI)	PI1: I will definitely buy online in the near future. PI2: I intend to buy online in the near future.	(Yoo & Donthu, 2001)

	PI3: It is likely that I will make an online purchase in the near future.
	PI4: I expect to make an online purchase in the near future.

4.4.3 Flow Experience

Csikszentmihalyi (1975) who pioneered the Flow concept defined it as the holistic sensation when acting with total involvement, when they are totally absorbed in their activity. In an online shopping context, Flow points to the level of fluency in online shopping and absorption during an online shopping activity. It provides the answer on the extent of an immersive, persuasive and compelling online shopping experience in influencing online purchase behaviour (Mahnke et al., 2015; Novak et al., 2000; Obadă, 2013).

Flow is a valuable construct, but one major weakness of Flow is that it is too broad and poorly defined. Existing literature shows there are many ways to operationalize the construct. One of the most prominent studies on the measurement of Flow is Hoffman and Novak (2000) who explained that Flow is determined by skill, control, challenge, focused attention and interactivity. It was supported with a combination of thirteen constructs with a total of sixty-two items, Huang (2003) measures Flow experience with four constructs, sense of control, attention focus, curiosity arousal and intrinsic interest. Koufaris (2002) study uses fifteen items combining four constructs namely, concentration, enjoyment, perceived control and challenges while Skaberg and Kimmel (2004) measure state of Flow with time distortion and enjoyment and discovered that telepresence is also a prominent construct to consider.

Flow is a complex construct with multiple dimensions (Sharif & Naghavi, 2021). For this research, three survey items to sum up the overall feeling of being in the Flow were adapted from Hoffman and Novak (2000). Preceding the survey items, an explanation of Flow is provided to respondents on the survey form. Four survey items adapted from Huang (2003) as they sufficiently support the thinking that Flow is both cognitive and affective, one item each for the sense of control, attention focus, curiosity arousal and intrinsic interest was adapted. Refer to Table 4.7.

Table 4.7

Flow Scale Items

Variable	Scale Item	Source
Flow (FL)	(Instruction on definition of Flow is given)	(Novak et al., 2000)
	FL1: I have experienced Flow while shopping online	
	FL2: I experience Flow frequently when shopping online.	
	FL3: Most of the time, when I shop online, I feel I am in Flow.	
	FL4: When online shopping, I feel in control of my interaction with the web.	(Huang, 2003)
	FL5: When navigating my favourite online shopping sites, I am totally absorbed in what I am doing.	
	FL6: Navigating my favourite online shopping sites, excites my curiosity and arouses my imagination.	
	FL7: Using my favourite online shopping sites is interesting and fun.	

4.4.4 Past Purchase Experience

The inclination to make a purchase online is very much dependent on the experience quality obtained through past purchase experience which will in turn affect future behaviour (Laroche et al., 2005). Online purchase experience refers to previous experience in purchasing products or services through the internet (Lu et al., 2011). Past purchase experience in this research is positioned as the moderating factor between attitude towards online shopping and purchase intention and between Flow and purchase intention. For the measurement, the researcher relies on three survey items (Table 4.8) adapted from Chen and Barnes (2007) who examined the impact of past purchase experience as the moderating factor between other behavioural constructs and purchase intention.

Table 4.8

Past Purchase Experience Scale Items

Variable	Scale Item	Source
Past Purchase Experience (PPE)	PPE1: Past online purchase experiences make me feel comfortable to shop online. PPE2: Past online purchase experiences give me confidence to shop online in the future. PPE3: Past online purchase experiences facilitate my purchase decision-making processes.	(Chen & Barnes, 2007)

Operationalization and measurement of variables used in this study is summarized in Table 4.9.

Table 4.9

Operationalisation and Measurement of Variables

Variable	Source	No. of Items	Type of Scale
Perceived Usefulness (PU)	Davis (1989)	6	7-point scale
Perceived Ease of Use (PEOU)	Davis (1989)	6	7-point scale
Attitude Towards Online Shopping (ATU)	Shih & Fang (2004)	3	7-point scale
Subjective Norm (SN)	Bagozzi & Dholakia (2002)	2	7-point scale
Perceived Behavioural Control (PBC)	George (2004)	3	7-point scale
Purchase Intention (PI)	Yoo & Donthu (2001)	4	7-point scale
Flow (FL)	Novak et al. (2000) and Huang (2003)	7	7-point scale
Past Purchase Experience (PPE)	Chen & Barnes (2007)	3	7-point scale

4.4.5 Demographic Variables

Respondents for this research were requested to indicate demographics information like gender, age, ethnicity, monthly income, occupation and educational qualification. Gender with male, female and other options. Data on respondent's age was presented in various ranges in groups of options, with minimum age of 18 years old to above 50 years old. Four options for ethnicity, Malay, Chinese, Indian and others. Monthly income ranges from below RM2,000 to RM10,000 and above. In terms of occupation, there are six broad options; student, professional, business owner, blue collar worker, retired and others. Lastly, education qualification was presented with five options, primary/elementary, secondary/high school, college, bachelor's degree and postgraduate covering both master's degree and PhD (Doctor of Philosophy). PIIs (Personal Identifiable Information) of demographic data was not required. Only aggregated results are reported for general findings across multiple demographic groups.

Beyond the demographic information, respondents were probed with questions related to their current online shopping behaviour. Respondents' behaviour questions that were included were top e-commerce sites visited, frequency, category of product or services bought, and total spend on online shopping in the prior three months. This is to gauge the level of exposure and engagement the respondents already have to the concept of online shopping.

4.5 Measurement Scale

This section discusses the selection of measurement scales for this research. Measurement scale is important to determine the multivariate techniques most appropriate to the data for both independent and dependent variables (Hair, Black, Babin, & Anderson, 2019). Measurement refers to a standardised process of assigning value to certain characteristics of an object (Kumar et al., 2018). Measurement provides an

accurate representation of the extent of interest, and it provides the basis of selecting the proper multivariate method of analysis (Hair et al., 2019) while scale is the level of measurement that represents the assessment of a variable. The four types of measurement scales are nominal scale, ordinal scale, interval scale, and ratio scale (Awang, 2012).

Nominal scale where objects are assigned mutually exclusive to reflect its identity. It is the most basic measure and does not require any ranking or intensity. Ordinal scale is obtained by ranking or arranging objects with regards to relative position of objects in a common variable. Interval scale uses a number of equal intervals or increments to allow respondents to select responses that fall in the appropriate intervals. Interval scale for example to gauge the intensity of two extremes of strongly agree and strongly disagree is mostly used in obtaining respondents' data with regards to attitude, perception or intention. Ratio scale is like an interval scale but has a zero point for a variable that has a possible value of zero. According to Hair et al. (2019), interval and ratio scales are the most precise measurement that allows any statistical analysis to be performed. Both scales have a constant unit of measurements between two adjacent points. This research will adopt interval scale for the survey questions, specifically Likert-scale, a common format to operationalize latent constructs with a series of scaled indicators (Hair et al., 2019).

Likert-scale was developed to examine the strength of respondents' agreement or disagreement to a given statement. Responses to a particular variable can be analysed item by item. Likert-scale is also known as a summated scale as it allows summation of scores across all items to generate a composite score to measure a unidimensional trait (Awang, 2012; Joshi et al., 2015; Sekaran & Bougie, 2016). It is easy to administer and provides a clear picture of the respondent's opinion on a particular topic. As Likert-scales produce numerical data, it can be easily analysed using statistical methods. For this research, a 7-point Likert-scale for item measurement ranging was used, from 1 (strongly disagree) to 7 (strongly agree). The researcher has chosen the 7-point scale rather than

the original 5-point. While 5-point Likert-scale and 7-Likert-scale were proven to give comparable results (Dawes, 2008), that adjacent scale in a 7-point scale is less radical compared to the 5-point scale. With more category options, the 7-point scale provides wider variety that increases the probability of meeting respondents' real sentiments (Joshi et al., 2015).

7-Likert scale has also been found to be commonly adopted by researchers in the similar field of examining consumer online behaviour (Barta et al., 2021; Hyun et al., 2021; Wu & Song, 2021; Chen & Barnes, 2007; Cheong & Park, 2005; Lin, 2007; Mahnke et al., 2015). Now that the measurement scale has been determined, the discussion will move to proposed questionnaire design and development.

4.6 Questionnaire Design

A questionnaire is a set of structured questions designed to collect data (Awang, 2012). To measure constructs in the proposed conceptual model, a questionnaire will be developed using pre-tested items from various research. The questionnaire is mainly made up of closed questions where respondents can express their degree of agreement or disagreement with the statement in a seven-step Likert scale. The survey items to be featured in the questionnaire have been discussed in detail in previous sections; Section 4.4.1 to 4.4.5. Each construct will be measured with multiple items from minimum two and up to maximum seven items. The survey is divided into 7 sections, featured in *Appendix 1*.

Opening section, Section 1 measures motivational factors that affect purchase behaviour through attitude towards online shopping and purchase intention. It consists of measurement of attitude towards online shopping (3 items), subjective norm (2 items), perceived behavioural control (3 items) and purchase intention (4 items). Section 2 consists of two key statements from Davis (1989) Technology Acceptance Model to

measure user acceptance of information technology systems, perceived usefulness, and perceived ease of use with 6 items each. Section 3 moves into questionnaires related to psychological questions regarding respondent's likelihood to purchase a product or service through Flow experience during online shopping with 7 items. Section 4 covers questions on past online purchase experience with 3 items.

Section 6 seeks to understand respondents pre-existing shopping orientation and behaviour as they may impact the outcome of the study. This includes frequency of making online purchases, whether they are enthusiastic shoppers, destination shoppers, bargain shoppers or apathetic shoppers and their views on the importance of certain utilitarian and hedonic factors that drive their online purchase decision. It ends with a series of open-ended questions to capture the realities of what are the typical items that are being bought online, concerns and past purchase experience in making online purchases.

Sekaran and Bougie (2016) commented that demographic questions or personal information whether appearing at the beginning or at the end of the questionnaire is a matter of choice of the researcher but for more sensitive and confidential information like age and income, Sekaran and Bougie (2016) and Awang (2012) highly recommend having them in the last section of the questionnaire to avoid respondent feeling uneasy at the onset of responding to the questionnaire. Hence, Section 7 seeks respondents' demographic data that includes gender, age, ethnicity, level of education, occupation and monthly household income.

4.7 Sampling

Clearly, it is impossible to collect data from the entire population. As such, sampling is an important factor in research as it involves the process of selecting the individuals that can rightly represent the general population to gain insights and draw

conclusions about the population as a whole. With the right sample size and sample design which provides understanding of sampling characteristics, it will allow the researcher to generalize the findings to the population (Sekaran & Bougie, 2016).

4.7.1 Sample Size

The right sample size for research often becomes a topic of debate. If the sample size is too small, not only the sample may not be adequately representing the intended population, but it may also affect correlations among test items. The recommended sample size ranges from 300 to 1,000. Sample size less than 100 or ratio of respondents to item is less than 3:1 is insufficient (Worthington & Whittaker, 2006). Hair et al. (2019) suggested that for research using Structural Equation Modelling (SEM), a large sample size is recommended for a more stable estimation purposes; between 150 and 400, the more complicated research model requires a larger sample size. On the other hand, Tabachnick and Fidell (2012) has argued that although Structural Equation Modelling (SEM) is known to be a large sample technique, new development in testing has shown that it allows estimation of models with as low as 60 respondents. The popular '10 times rule' referring to the number of arrows pointing at a construct, multiply by ten to determine the minimum sample size is another common method used by researchers as it is simple to apply (Hair et al., 2019; Kock & Hadaya, 2018). Tabachnick et al. (2007) and Worthington and Whittaker (2006) recommended a 5:1 respondent to item ratio in determining the appropriate sample size.

This research used the G*Power program to check the adequacy of the sample size. The results showed that the minimum sample size required for this study is 138, based on the effect size of 0.15 at 95% power level (Faul et al., 2009). Given the widely available online shopping population, the researcher aimed to achieve a sample size of at least 500-600 respondents. At least 650-700 surveys were sent out to potential

participants to allow some margin of error of incomplete survey or missing data. The outcome was 601 completed surveys collected. Hence, the collected samples were more than adequate.

4.7.2 Sample Design

Probability sampling is a sampling technique when the sample is selected by chance while non-probability sampling is when the sample is selected based on the researcher's own discretion rather than by chance (Awang, 2012). Of the two major type of sampling designs, given that the global online shopping adoption has risen to 59% in urban areas (Clement, 2020), simple unrestricted probability sampling design is the ideal option in the interest of broad generalisability and the least biased (Sekaran & Bougie, 2016). On the other hand, this technique is not practical, only applicable if the population is homogeneous in terms of characteristics, requires a sampling frame which is not easily available and will fail if all the information of a population is not used. It is inefficient, expensive and takes a lot of time (Awang, 2012).

Given the limitations of sampling frame, budget and time for this research, the researcher has selected the alternative, a non-probability sampling or non-random sampling where the sample is selected based on the researcher's subjective assessment. On the upside, major development in recent times has seen reduction in sampling the general population and more on sampling specific groups of people (Sudman & Blair, 1999). The group is more defined than the general population. Generalization of the research result is valid if they are restricted to a subset of the larger population (Reynolds et al., 2003). For this study, the targeted population are active online shoppers who are 18 years old and above and had at least shopped online once in the last 90 days. The respondents were not confined to any specific gender, education level, nor income level.

Geographically, they are mainly residents in the biggest cities in Malaysia, namely Kuala Lumpur, Petaling Jaya and their surrounding areas.

Besides the complication in administration of probability sampling, another reason for selecting non-probability sampling is driven by the objective of this research. The main objective for this research is to refine current understanding of factors that influence online purchase intention by testing behavioural and attitudinal based theories, the Theory of Planned Behaviour (Ajzen, 1985) and the Technology Acceptance Model (Davis, 1989) and experiential psychology-based concept of the Flow experience (Csikszentmihalyi, 1975). For theoretical research, Reynolds et al. (2003) have argued that non-probability sampling technique is satisfactory and acceptable. The non-probability sampling technique that the researcher has used for this research is snowballing sampling or a chain-referral sampling to accumulate a larger sample size.

4.8 Data Collection

Data refers to observations or evidence in the form of quantitative, qualitative or both. Collection of data is foundation to any scholastic research as the quality of data determines quality of the research (Singh, 2006). For this research, data was collected mainly via online channel; self-administered electronic surveys and via offline channel; distribution of physical survey form. With advanced research technology, online survey form of data collection has gained popularity as it was found to be equally effective as other channels or formats of dissemination, i.e., oral and mail (Sekaran & Bougie, 2016). The data for this research was collected from Malaysia, residents of Klang Valley urban areas, namely Kuala Lumpur and Petaling Jaya territories, Malaysia's most populated and busiest cities. Care has been taken to ensure that the respondents are residents from these areas and not another country as online shoppers' maturity, shopping experience and

expectations differ from country to country. To include respondents who reside in other countries may dilute the results.

Fieldwork was conducted in July to September 2021, when stricter lockdown conditions were being imposed. Potential shoppers still have a choice to visit between brick-and-mortar stores or shop online. Administration of the online questionnaires was facilitated with Google Forms survey system. This system was particularly useful in capturing more accurate data as respondents could review their response before submission. It allowed automating of the data collection process, and the researcher was able to obtain cumulative data as the online survey was in progress. Given that this research is to examine factors influencing online purchase intention, it was appropriate to distribute the survey in the form of a link via the digital channels like emails and instant messaging platforms, the likes of WhatsApp, Facebook Messenger and WeChat. The aim was to achieve a sample size of at least 500-600 respondents. The researcher distributed the survey to at least 650-700 potential participants and at the end of the data collection period had successfully collected a total of 601 completed surveys.

As stated in the previous section, this was a non-probability purposive sampling where participants were selected based on the researcher's subjective judgement, the willingness of participation and eligibility to meet the research objectives. Convenience sampling was used due to its speed, cost affordability, and sample availability. In this case, the sample were minimum 18 years old adults who were active online shoppers, who have made at least one online purchase in the last 90 days. As the researcher was based in Malaysia, the survey was distributed to the Malaysia population among the researcher's professional, academia and personal networks.

4.9 Data Analysis Procedures

Upon completion of data collection, the collected data is known as ‘raw data’ (Singh, 2006). The next step is to get the data ready before it can be analysed to answer the stipulated research questions. As this is mainly an electronic survey, the data would have been conveniently captured directly onto the computer without the need for data entry. Preparing data for analysis involves coding by assigning numbers to the responses, followed by editing and treating data to detect and remove blank responses, illogical and inconsistent responses (Sekaran & Bougie, 2016).

Based on the Structural Equation Modelling (SEM) assumptions which will be discussed in the next section, the next process would be to test the assumptions fundamental to most multivariate techniques like normality, outliers, and multicollinearity. Outliers are not apparent. Researchers need to review the data case by case. If not careful, outliers may substantially affect the results and cause biases that cannot be distinguished from the actual results (Hair et al., 2019).

Preparation of the data and the data analysis proper will be done on the software package IBM SPSS AMOS 24, one of the newest software developed for SEM to analyse inter-relationships accurately, effectively, and efficiently among latent constructs. AMOS is the software for covariance-based SEM (CB-SEM) as opposed to other popular software like SmartPLS for Partial Least Square SEM (PLS-SEM). According to Sarstedt et al. (2016), Rigdon et al. (2017) and Hair et al. (2021) PLS-SEM is preferred in situation where the research goal is to identify key target constructs, where the structural model is complex or there are many constructs and indicators. Sample size is small, and data are not distributed normally. Where else, CB-SEM is the preferred tool when the goal is theory testing or theory confirmation or comparing with alternative theories. Also, in cases where the structural model has circular relationships and requires a global goodness-of-fit criterion. According to Hair, Ringle, Sarstedt (2014), CB-SEM is a more

appropriate methodology for causal modelling with prior established theories more robust and flexible, like the proposed conceptual model for this research which aims to test and confirm the theories. CB-SEM is also less sensitive to sample size with both formative and reflective constructs. It is more rigorous and more appropriate to test relationships between latent constructs. The researcher is particularly keen on the CB-SEM goodness-of-fit measures that emphasize on theory testing to assess the SEM results (Anderson & Gerbing, 1988).

4.9.1 Structural Equation Modelling (SEM)

Structural equation modelling (SEM) is a technique developed to analyse inter-relationships between one or multiple independent variables (IVs) and one or multiple dependent variables (DVs) (Ullman & Bentler, 2003). Hair et al. (2018) advocate SEM is the most efficient estimation technique to examine separate multiple regression equations simultaneously. It combines quantitative data with correlational and causal assumptions into the research model. It has also been referred to as covariance structure analysis, causal modelling or causal analysis. SEM can be explained with structural models and measurement models. Structural model refers to the path model, relating independent variables to dependent variables, to determine which independent variables predict each of the dependent variables. The measurement model uses several variables for a single independent variable or a single dependent variable that usually represents a summated scale (Hair et al., 2019).

Other advantages of SEM as a powerful tool includes doing Confirmatory Factor Analysis (CFA), analyse regressions with multicollinearity problems, analyse path analysis with multiple dependents. It can also assess the correlation and covariance in a research model (Awang, 2012). SEM can comprehensively assess and alter a theoretical model (Anderson and Gerbing, 1988). SEM applies well with an established theoretical

base to measure both the measurement and structural models. In fact, a theory-based approach to SEM is required, as all potential relationships and non-relationships between constructs must be identified before a SEM model can be estimated (Hair et al., 2019). As outlined in the previous chapter, the conceptual framework of this research integrates established attitudinal, behavioural and psychological theoretical models to understand triggers that drive an online browser to become an online buyer, SEM is appropriate to test the hypotheses of the relationship between the constructs in the research model.

To perform SEM, the researcher heeds the recommended two steps approach by Anderson and Gerbing (1988). In the two steps approach, estimation of the measurement model and the structural model are done separately, as opposed to a one step approach that analyses both measurement model and structural model simultaneously. Anderson and Gerbing (1988) highlighted that the two steps approach is preferred to test the hypotheses in a research model as it avoids unnecessary interaction between the constructs during the structural model test. Moreover, the one step approach only provides one key test of fit and validity without separating the measurements.

In the first step of the two steps approach, the measurement model fit and elements of construct validity with Confirmatory Factor Analysis (CFA) are examined. The analysis includes testing of causal relationships between observed items and latent constructs, to confirm uni-dimensionality of a construct which signals that the construct has an acceptable fit. This will offer a more precise convergent and discriminant validity of the construct (Anderson & Gerbing, 1988). If the outcome is satisfactory for both reliability and validity tests, it means the measurement model is obtained.

Hair et al (2019) advised the two steps approach, separating the test of measurement model as a valid structural theory test cannot be done with poor measures. Once the measurement model tests are satisfactory, the researcher will proceed to the

second step to test the structural model. A total assessment of measurement model fit, and to provide a base for the assessment of the validity of the structural theory.

As briefly mentioned in the preparation of data for data analysis, the statistical software of choice for this research will be IBM SPSS AMOS version 24. AMOS is the acronym for Analysis of Moment Structures. It was developed to overcome the limitations of the traditional Ordinary Least Square (OLS) which is not being able to model and analyse latent constructs and model inter-relationships of latent constructs simultaneously. Other more well-known software that can analyse SEM besides AMOS includes LISREL, SEPATH, PRELIS and MPLUS. AMOS is the preferred software for its easy-to-use drawing tools to create path diagrams and it is a fast, efficient, and user-friendly tool to analyse and test theories.

4.9.2 Validating the SEM Measurement Model

The procedure to validate the measurement model of latent constructs is called Confirmatory Factor Analysis (CFA). CFA is a statistical technique that allows researchers to test hypotheses of the relationship between observed variables and underlying latent constructs. In line with the proposed research model for this thesis, the researcher uses knowledge of theory and past empirical research to hypothesize the relationship pattern and to test the hypothesis statistically (Suhr, 2006). CFA can assess unidimensionality, validity and reliability of a latent construct. CFA must be performed on all latent constructs before proceeding to model the inter-relationship in the structural model. For better efficiency, the researcher plans to run CFA for pooled or collective measurement models.

With CFA, items with low factor loading that do not fit the measurement model will be removed. This will be guided by a predetermined fitness index and with caution

that not more than 20% of total items in the model should be removed or a particular construct will be deemed unfit (Awang, 2012).

4.9.2.1 Assessing Unidimensionality, Validity and Reliability

Unidimensionality is achieved when a set of measured variables can be explained by only one basic construct, provided that other measuring items have acceptable levels of factor loadings for each of the latent constructs. Otherwise, it would be removed. The size of factor loading for every item should be 0.50 or more and in most cases of established measurement items it should be ideally 0.70 or higher (Hair et al., 2019). The process of removing items will be done one at a time, starting with the item with lowest factor loading and then rerun the measurement model until unidimensionality is achieved.

The validity of a research study refers to how accurate the items measure what it intends to measure. This research will test convergent validity and discriminant validity. The two subtypes of construct validity are convergent validity and discriminant validity. Convergent validity proves that there is a high inter-correlation between items from different sources responding to the same measure (Sekaran & Bougie, 2016), meaning all items in the measurement model are related to the same construct. Convergent validity is measured by the average variance extracted (AVE). It should be greater than 0.50 which means that the latent construct explains more than half of the indicators' variance (Hair et al., 2011).

Discriminant validity explains the extent of distinction of a variable or a construct from other variables or constructs, to establish that two concepts are not correlated to each other (Sekaran & Bougie, 2016). This helps in identifying redundant measurement items. When this happens, the redundant item shall be removed, and the researcher will rerun the measurement model again. Only when two constructs model are clearly different,

where the correlation should not exceed 0.85, then discriminant validity is achieved (Hair et al., 2019).

Reliability measures consistency and stability of the measurement model, explaining how a set of variables is reliable to measure what it intended to measure (Sekaran & Bougie, 2016). This is to ensure that the measurement taken at other times is reliable, not too wide ranging or varied. Unlike validity that explains what should be measured, reliability relates to how it is measured (Hair et al., 2019). Cronbach's alpha is one of the most commonly used diagnostic measures for reliability coefficient to assess how well items are positively correlated to one another. The general accepted limit for Cronbach's alpha is 0.70. Items with value below 0.60 will be removed from the measure. Cronbach's alpha closer to 1.0 means higher internal consistency reliability. (Anderson & Gerbing, 1988; Hair et al., 2019; Sekaran & Bougie, 2016). It has been argued that one issue with Cronbach's alpha is it relates positively with the number of items. High number of items will increase the reliability value (Hair et al., 2019). CFA provides better estimation of Cronbach's alpha's coefficient reliability (Bryne, 2010; Hair et al., 2019). Hence, to test reliability, this study will also apply composite reliability and average variance extracted (AVE).

Composite reliability (CR) indicates the reliability and internal consistency of a construct. For CFA, the general guideline for composite reliability should be above 0.70 but not exceeding 0.95 (Hair et al 2018). Average variance extracted (AVE) refers to the average percentage of variations where the construct is explained by the measuring items. AVE of 0.50 or 50% and more is required for every construct (Hair et al., 2019).

Satisfactory assessment of validity and reliability of a construct is required for any robust measurement model. It indicates that it is valid to measure what it intended to measure, and it is reliable as it is stable and consistent (Anderson & Gerbing, 1988; Hair et al., 2019; Sekaran & Bougie, 2016).

4.9.2.2 Fitness of Measurement Model

Once data normality is satisfied, outliers removed, next is to dive into the assessment of the overall model fit. The concept of 'goodness-of-fit' is important to assess the fitness of the SEM model as it points to how well the model will produce the covariant matrix among the variables, optimistic assessment of how it fits even with another sample of the population, and a good data representation of reality. Model fit ascertains acceptable level of statistics criteria are achieved (Hair et al., 2019). The model fit can be categorized by Absolute Fit, Incremental Fit and Parsimonious Fit. The Absolute Fit index indicates overall 'goodness-of-fit' for both structural and measurement models, Incremental Fit index indicates 'goodness-of-fit' for how well a specified model fits in relation to other alternative baseline model while Parsimonious Fit index indicates 'goodness-of-fit' for which model among the competitive set is best.

There are several multiple goodness-of-fit indices indicating fitness of SEM structural and measurement models. Currently there is no one agreed fitness indices among researchers. For this thesis, the researcher will use goodness-of-fit indices outlined by Hair et al. (2019) and Bryne (2013) in Table 4.10.

Table 4.10

Goodness-of-Fit Index

Category of Fitness	Category of Index	Acceptance Level	Comment
	Chi-Square X^2	P > 0.05	Sensitive to sample size
1. Absolute Fit	Root Mean Square Error of	0.03 < RMSEA < 0.08	Value between 0.05 and 0.08 is good.

	Approximation RMSEA		0.03 and 0.08 is an acceptable fit.
	Goodness-of-Fit Index (GFI)	GFI > 0.90	GFI 0.95 is a good fit
2. Incremental Fit	Normed Fit Index (NFI)	0 > NFI > 1	Higher value means better fit.
	Comparative Fit Index (CFI)	0 > CFI > 1	Higher value means better fit.
	Adjusted Goodness-of-Fit Index (AGFI)	AGFI > 0.90	AGFI 0.95 is a good fit
3. Parsimonious Fit	Parsimony Normed Fit Index (PNFI)	0 > PNFI > 1	Higher value means better fit.

Note: (Hair et al., 2019)

4.9.2.3 Assessing Normality for Data Distribution

Upon achieving fitness indexes, the research needs to assess normality of the data collected. Normality is the most basic assumption for a multivariate analysis. It refers to the extent to which data is normally distributed (Anderson & Gerbing, 1988). Non-normality can be determined by detecting evidence of outliers. This can be done by evaluating the skewness and kurtosis of the distribution for every item (Ullman & Bentler, 2003). Absolute value for skewness when data is normally distributed is 1.0 or lower. With the exception of AMOS with the use of the Maximum Likelihood Estimator (MLE), the measurement item is still considered strong to skewness exceeding 1.0 in a situation where the sample size is sufficiently large and Critical Region (CR) for the skewness does

not exceed 8.0. According to Awang (2016), normality for sample size of 200 and above is considered large and researchers can still go into further analysis despite skewness reaching up to 1.50. This is an important point to note given the target to collect between 500-600 respondents for this research. Similarly, SEM using MLE will also violate multivariate kurtosis normality with a large sample size. Critical Region (CR) for the kurtosis should not exceed 7.0 (Byrne, 2010). Any extreme value beyond the normality range will be considered as outliers, to be removed to improve multivariate normality.

Alternatively, bootstrapping can be applied. (Hair et al., 2019). Bootstrapping assumes a sample size as a small representation of the population where it continuously imitates the original sample through a re-sampling process where the MLE in AMOS can be instructed to select a 500 random sample and re-do the analysis. A larger sample distribution would be closer to normal distribution (Byrne, 2010).

4.9.3 Common Method Bias

Common method bias (CMB) is a type of measurement for studies where data is collected using a single method such as self-reported surveys that were used for this study. Respondents reply to survey questions for both independent and dependent variables at the same time could create biasness or variances may occur in the data analyses causing inaccurate internal correlation and consistency among variables (Podsakoff et al., 2003). To test common method bias for this study, the researcher takes the recommendation from Podsakoff et al. (2003) to use Harman's single factor score. To perform this test in AMOS, all items measuring the latent variables are loaded into one common factor and run a confirmatory factor analysis (CFA). Malhotra et al. (2006) explained that if the one factor model fits, it means common method bias is present and on the other hand, common method bias will not be an issue if all items of the constructs are not fit when modelled as a single factor.

4.9.4 Analysing SEM Structural Model

After completion of tests and satisfactory report on dimensionality, validity, reliability, and normality in data distribution, the next steps will be to model the constructs into structural models for SEM analysis. While the measurement model describes the links between latent variables and their observed measures, the structural model represents the magnitude of the relationships between latent variables (Byrne, 2010). It refers to the structural relationships among constructs, the proposed theory, indicating whether constructs are related to each other or otherwise (Hair et al., 2019).

In a structural model, there are exogenous and endogenous constructs. Exogenous construct is a construct that does not have any structural path relationships pointing at them. They only have arrows pointing out while endogenous constructs are latent target constructs explained by other constructs via structural model relationships, with arrows pointing in (Hair et al., 2011). The manner of how arrows link constructs are determined by the direction of hypotheses. Single headed arrow reflects causal effect, double headed arrow reflects correlational effects of the constructs. AMOS enables modelling and analysing of multiple relationships between the constructs simultaneously (Awang, 2012).

Testing of the proposed structural model will be done by examining the overall model fit to measure acceptance of the theory and structural parameter estimates that represent direct and indirect relations within the path diagram. The same CFA model guidelines can be applied to the structural model fit. If the model demonstrates good fit, then the model is supported, the relationship between the constructs indeed exists, confirming the hypotheses, and vice versa (Hair et al., 2019). Table 4.11 visualizes the end-to-end data analysis procedures explained in Section 4.9.1 to 4.9.4 that will be adopted for this research.

Table 4.11

Summary of Data Analysis Procedures

Data Screening		**Data Analysis Proper**			
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Preparing Data Coding, editing and treating data to detect and remove blank responses, illogical and inconsistent responses (Sekaran & Bougie, 2016).	**Test SEM Assumptions** Normality - extent to which data is normally distributed, outliers – non-normality, and multicollinearity – where two or more IVs are highly intercorrelated.	**Test Measurement Model Fit** and elements of construct validity with Confirmatory Factor Analysis (CFA), includes testing of causal relationships between observed and latent constructs, to confirm uni-dimensionality of a construct.	**Test for Convergent and Discriminant Validity** of the constructs. Uni-dimensionality means construct has an acceptable fit. Offering a more precise result. If outcome is satisfactory for both reliability and validity tests, Measurement model is obtained (Anderson & Gerbing, 1988).	**Test Structural Model** Examining the overall model fit to measure acceptance of the theory and structural parameter that represent direct and indirect relations within the path diagram.	**Apply the same CFA model guidelines** to the structural model fit. If the model shows good fit, then the model is supported, the relationship between the constructs indeed exists confirming the research hypotheses.

4.9.5 The Mediating Effect

The mediator is a variable that mediates the effect of an independent variable to its dependent variable. Without the mediating variable, the effect of the independent and dependent variables only exists indirectly (Awang, 2012). Mediating variable intervenes and works through the effect of an independent variable on the dependent variable, a re-specification of a causal relationship (Hair et al., 2019). Prior to the mediation analysis,

the researcher should consider the theoretical meaning behind the relationships between the affected variables (MacKinnon et al., 2012).

In the proposed conceptual model, attitude towards online shopping is posited to be the mediating variable between perceived usefulness and purchase intention referring to hypothesis H_4 between perceived ease of use and purchase intention, hypothesis H_7, between subjective norm and purchase intention, hypothesis H_{11} and perceived behavioural control and purchase intention hypothesis H_{14}. Attitude towards online shopping is also the mediating factor between Flow and behavioural intention, as indicated in hypothesis $H_{17.}$

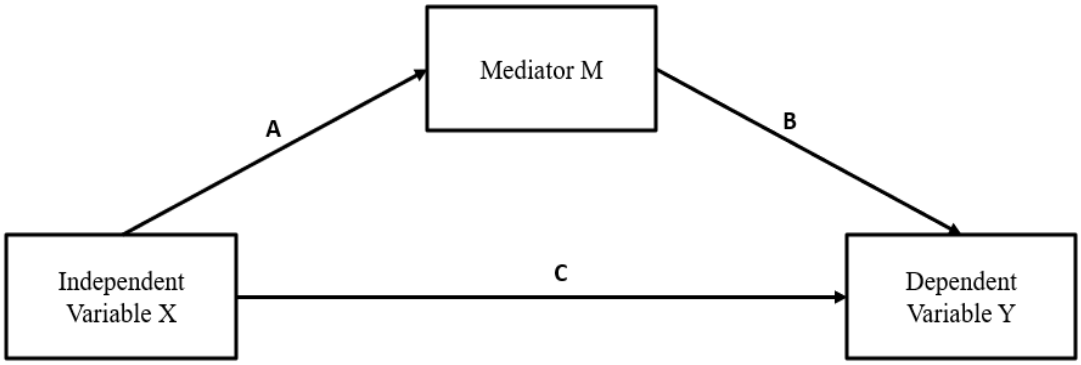
According to Awang (2012), a mediating variable has two arrows, one pointing in from an independent variable and another pointing out to a dependent variable. If the direct effect between the independent and dependent variable is insignificant compared to the indirect effect through the mediating variable, it can then be hypothesized that the mediating variable has a mediation effect on the relationship between the two variables. To test the mediation effect of the certain constructs, the researcher has reviewed a few options, to use conventional causal steps approach that can be traced back to 1950s but made popular by Baron and Kenny in the 1980s, the statistical PROCESS macro script developed by Hayes et al. (2017), or AMOS, the main statistical software package used for this study.

Baron and Kenny (1986) causal steps suggest that to conclude a mediation effect, it has to fulfil 4 criteria. As visualised in Figure 4.1, the first criteria is that the independent variable X must have a significant impact on dependent variable Y (path C). Secondly, variable X must have a significant impact on M, the mediating variable as well (path A). The third criteria is that the relationship between mediator M and dependent variable Y must also be significant (path B). Lastly, when all three X, M and Y are analysed together, the effect of variable X on Y becomes insignificant (path C) with the addition of mediator

M, then it can be concluded that the effect is a full mediation. However, if the effect of variable X on Y is made less significant with the presence of mediator M, then it is a partial mediation effect (Baron & Kenny, 1986; Hayes et al., 2017).

Figure 4.1

Baron & Kenny; Causal-Step Approach to Mediation Effect Analysis



However, the causal steps by Baron & Kenny to test mediation effect has been heavily criticised by Hayes et al. (2017). He argued that the 4 criteria set by Baron & Kenny where there must be a significant relationship between independent variable X, mediator variable M and dependent variable Y are not required at all (Hayes, 2009; Hayes et al., 2017). Causal steps approach did not take into consideration the logic of testing an indirect effect, which is the same inference as the mediating effect; to the extent that Hayes et al. (2017) argued that mediation effect should be referred to as indirect effect.

Besides the point made by Hayes on the lack of logic of Baron & Kenny causal steps approach and that it is somewhat outdated, the PROCESS is a computational tool, a macro is also a much less complicated method. The PROCESS macro developed by

Hayes et al. (2017) is available to be installed in the SPSS software for ease of testing mediation effect. Researcher chooses a model pre-programmed to the macro with the roles for each variable in the model, i.e., the independent variable, dependent variable, mediator, or moderator. PROCESS macro will estimate and output data statistics such as the path coefficients, standard errors, t- and p-values, confidence intervals and more. Past studies have supported the fact that the PROCESS macro can be an alternative to maximum likelihood-based SEM as it could generate practically identical results (Cheng et al., 2019; Hayes et al., 2017; Yang & Yen, 2018). The only difference is that PROCESS macro can be done automatically and almost effortlessly.

AMOS as the main statistical software for analysis for this study is also a relatively easy tool to use to test mediating effect. AMOS is our third option in approaching measurement of mediating effects. It has a user-friendly interface that allows researchers to specify the model visually, easier than manual coding. AMOS allows researchers to model complex relationships between variables, including multiple mediators, moderators, and latent variables. For these reasons, the researcher decided to use AMOS for the mediation testing. The steps include requesting from AMOS indirect effect, direct effect and total effects in the output to give all possible indirect effects in the model. With bootstrap analysis e.g., 5,000 samples at 95% level of confidence intervals, the researcher will get output of upper bound and lower bound estimates of the indirect effect based on your bootstrap of 5,000 samples. If the range for the upper and lower bound estimates do not cross over zero, then the indirect effect is considered significant (Collier, 2020).

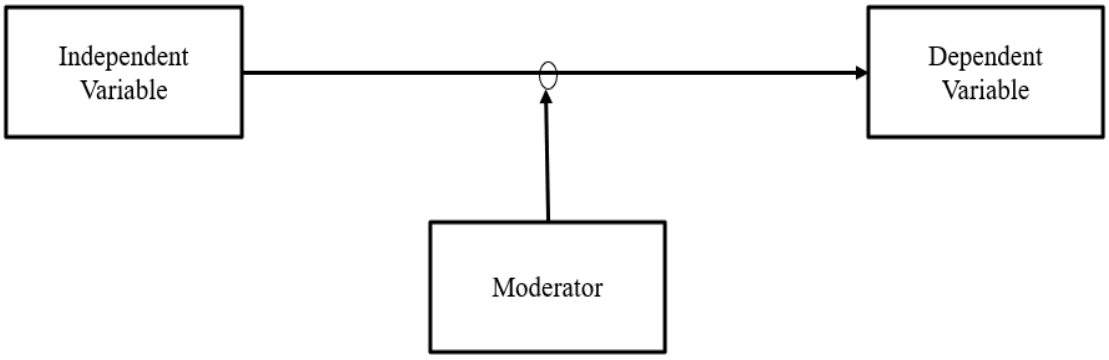
4.9.6 The Moderating Effect

The moderator is a third variable that affects the relationship between two related variables or construct (Hair et al., 2019), Figure 4.2. It is assumed that the moderating

variable would change the causal effect between two variables. The extent of the causal effect of the predictor on the criterion will be according to the value of the moderator (Holmbeck, 1997). In the proposed conceptual model, past purchase experience is posited to be the moderating variable between Flow and purchase intention referring to hypothesis H_{18}, and between attitude towards online shopping and purchase intention, hypothesis H_{19}.

Figure 4.2

Moderating Effect



PROCESS macro approach was considered as it is an easy model set up using a point-and-click interface by installing PROCESS macro into SPSS, it generates estimates of the regression coefficients, a table of estimated values of the outcome for visualizing and interpreting the results, providing various options to examine the interaction (Hayes et al., 2017). While SEM provides greater flexibility in terms of model specification and managing missing data, detecting random measurement errors when testing impact involving latent constructs, it involves a lot of effort and programming skills to calculate the statistics. The PROCESS macro does this automatically and provides a similar result.

However, for consistency, the researcher decided to use AMOS to measure moderating effect, just like it was used to measure mediating effect. AMOS output is easy to interpret. The output includes estimates of the model parameters, fit indices, and graphical representation of the model. To measure the moderating effect, the researcher first needs to mean center the independent variable and the moderator. Once the mean values have been determined, the researcher needs to form a new variable that is mean centered. The researcher then multiplies the mean centered values of the independent variable and the moderating variable to create an interaction term to assess moderation. If the interaction is significant but positive, this would indicate that in the presence of the moderator is strengthened (Collier, 2020)

4.10 Summary

At the start of this chapter, the research methodology is broadly discussed from the point of reviewing and explaining the researcher's thinking and selection of research philosophy, research design, to justify the use of mainly self-administered electronic questionnaires for data collection. The survey instrument with scale items for each factor were outlined including demographic variables that will be included in the questionnaire. The following was then discussed in detail, measurement scale, questionnaire design and sampling in terms of sample size and sample design.

The process of data collection was explained with a preferred statistical data analysis approach, and tool. Procedures to test reliability, validity and model fit to test the hypotheses including the elements and measurement of mediating and moderating effects on the relationship between variables will be explained in detail in the following chapter.

4.11 Conclusion

This section concludes the proposal section of this research covered in Chapter 1 to 4 before diving into the analysis of the data collected. The objective of this study is to understand the online customer behaviour that leads to purchase intention. This proposal started with setting the backdrop with the unprecedented disruption from the COVID-19 pandemic where consumers were propelled to move their daily activities to online. Subsequently, the researcher discussed the current and future state of the e-commerce industry, highlighting existing issues on online low conversion rate and perpetual high cart abandonment rate. The proposed conceptual model for this research suggests that an individual's purchase intention as the closest proxy for the action of making a purchase, is preceded by his or her attitude towards online shopping and Flow experience. Comprehensive literature review on established frameworks and theories was done followed by development of hypotheses. The data analysis procedures for this study were then proposed.

In the subsequent Chapter 5, it covers the analysis of the data from the 601 completed questionnaire collected, using IBM SPSS AMOS version 24 and Structural Equation Modelling to examine the model fits and hypothesis testing. Chapter 6 discusses implications of the research results, and theoretical and practical contributions. Outcome of this study offers the e-commerce industry insights to understanding triggers to customer intention and behaviour to develop better strategies to acquire more online customers, improving sales, profitability, and retaining and building customer loyalty.

CHAPTER 5: DATA ANALYSIS AND RESULTS

5.1 Introduction

The survey form was distributed to at least 650-700 potential respondents who were minimum 18 years old and had made at least one online purchase in the last 90 days. At the end of the survey period, a total of 601 completed surveys were collected. 83% (n=501) via Google forms, the main channel used for the data collection, and the balance 17% (n=100) were collected physically. Further, 18 extreme outliers were identified and excluded (discussed in Section 5.2.2). As such, only 583 questionnaires were deemed useful for analysis.

This chapter presents and discusses the results of the data analysis and hypotheses testing. Section 5.2 starts with the preliminary data analysis, which is data preparation for analysis, including coding, editing, treatment of missing data and inconsistent responses detection based on the guides as suggested by Sekaran and Bougie (2016). Moreover, the Structural Equation Modelling (SEM) assumptions such as normality distribution and outliers were also addressed.

Upon which, there is a review on the respondents' demographic profiles and sample characteristics in Section 5.3. Section 5.4 evaluates the measurement model fit with Confirmatory Factor Analysis (CFA), testing of convergent validity, reliability, and discriminant validity of the research model. As the survey was done in a self-reported way, common method variance test was performed in this section as well to avoid common method bias, following the procedure suggested by Podsakoff et al. (2003). Following the evaluation of the measurement model, the research structural model is reviewed. Section 5.5 presents the results of testing of the Structural Equation Modelling (SEM) to measure the acceptance of the theories and structural parameters within the path diagram. The highlight of this section is the result of the path analysis for hypothesis testing and presentation of the results.

The results of mediation effects of attitude towards online shopping and purchase intention, and moderation effects of past online purchase experience towards the behaviour of making an online purchase are presented in Sections 5.6 and 5.7 respectively. Finally, overall results of the data analysis are summarized in Section 5.8.

5.2 Preliminary Data Analysis

Preliminary data analysis refers to the preparation of the raw data before it is suitable for use in statistical analysis to test the research hypotheses. Johar et al. (2005) advised that the quality of data analysis relies on this important step. Accurate and reliable results depend on how well a researcher prepares the data and changes it into a form that is suitable for analysis. Preliminary data analysis includes screening, editing, cleaning, coding of raw data and treatment of missing data. This is followed by testing of Structural Equation Modelling (SEM) assumptions such as normality, and outliers' data detection. To avoid biases or variances occurring in the data analyses, common method bias is performed. Thereafter, descriptive statistics analysis was conducted on the construct variables and analysis of respondents' profile and characteristics based on demographics variables (Johar et al., 2005).

5.2.1 Treatment of Missing Data

For a respondent who misses out on a response to a question or a set of questions in the research survey especially in multivariate research is not unusual. Missing data refers to the missing value on one or more variables that are not available for analysis. According to Hair et al. (2010), in Structural Equation Modelling (SEM), the estimation process based on maximum likelihood cannot be performed with missing data. Hair et al. (2019) explained that the implications of missing data are two-pronged; practical and substantive. The practical impact is the reduction of sample size that can be used for

analysis and observations on some variables may have to be eliminated. The substantive implications can be a concern when the missing data is non-random due to biased parameters or inaccurate hypotheses, if so, it could cause incorrect statistical results (Hair et al., 2010, 2019).

For this study, the researcher finds missing data with the use of SPSS statistical software by screening the data with frequency distributions and descriptive statistics. The frequency test could detect any missing response for each of the variables. The results (*Appendix 2*) of the SPSS test revealed that there is no missing data in the data set collected. This is due to the pre-set criteria at the stage of data collection where the online survey form has been pre-programmed such that all survey items are compulsory to obtain a response. Failing which, the respondents cannot proceed to the next survey item. For survey forms that were distributed physically, the completed forms will not be accepted from the respondents unless all the questions have been answered. With no missing data found in the present study, the next section will deliberate on subsequent preliminary data analyses covering detections of normality and outliers in the data.

5.2.2 Data Screening - Testing of Normality and Outliers

Before testing a structural model, the basic assumptions of normality must be addressed (Bentler & Chou, 1987; Hair et al., 2010). The most basic assumption in a multivariate analysis is normality. It refers to the shape of the data distribution curve where it matches the normal distribution, used as the benchmark in statistical methods (Hair et al., 2019). The normality of the data in this research was assessed on the value of skewness and kurtosis recommended by Hair et al. (2010).

Skewness refers to the balance of data distribution, measurement of the asymmetrical shape of the data distribution. If data is skewed, it means imbalanced data distribution occurs. Data is positively skewed if the tail of distribution was longer on the

right side of the normal curve and correspondingly, data is negatively skewed if the tail of distribution is longer on the left side of the normal curve (Hair et al. 2010, 2019). On the other hand, kurtosis refers to the statistics measurement of the 'peaks' and the 'flattening' of the distribution. A high kurtosis value means irregular extreme deviations exist. This research adopts the suggestions from Kline (2016), who advised that data is normal if the value of skewness and kurtosis falls within the range value of ±3:3 and ±10:10 respectively. The measurement of skewness and kurtosis of the variables in this research is obtained via SPSS statistical software. As presented in Table 5.1, the result shows that all items measured are well placed within the skewness range value of ±3:3 and kurtosis range value of value ±10:10. This means the data collected achieved the criteria of normality and that the data is normally distributed (Kline, 2016).

In addition, outliers refer to anomalies in the combination of data characteristics that are different from what deemed as normal combinations. Detection of outliers is based on the comparison to established norms. Outliers have been referred to as one of the most prevalent research methodological issues as it could exert inconsistent influence on the outcome with regards to the relationships among variables (Aguinis et al., 2013). This study employed a method suggested by Aguinis et al. (2013) that uses Mahalanobis d^2 test distance value to identify the extreme outliers and limit their influence on the outcome of the analysis (Tabachnick et al., 2007). Kline (2016) indicated that the cut-off values of p1 and p2 are less than 0.05. From the analysis, 18 extreme outliers that are not within the acceptable value range were deleted from the data. Upon deletion of the outliers, only 583 samples are left for further analysis. Removing the outliers caused loss of data but it is necessary to ensure the robustness of this multivariate analysis (Hair et al., 2019). In summary, the results of detecting normality and outliers indicate that the basic Structural Equation Modelling (SEM) criteria are met and can proceed with further analysis.

Table 5.1

Assessment of Normality

Variables	Min	Max	Skewness	Kurtosis
A1	1	6	-1.021	1.917
A2	1	6	-0.785	1.119
A3	1	6	-0.727	1.339
SN1	1	6	-0.595	0.147
SN2	1	6	-0.549	0.133
PBC1	1	6	-0.891	2.217
PBC2	1	6	-0.841	1.387
PBC3	1	6	-0.786	0.739
PI1	1	6	-0.978	2.036
PI2	1	6	-0.965	2.108
PI3	1	6	-1.064	2.748
PI4	1	6	-0.793	1.468
PU1	1	6	-0.615	0.383
PU2	1	6	-0.330	0.419
PU3	1	6	-0.624	0.278
PU4	1	6	-0.590	0.338
PU5	1	6	-0.376	-0.303
PU6	1	6	-0.432	-0.502
PEOU1	1	6	-0.564	0.485
PEOU2	1	6	-0.544	0.264
PEOU3	1	6	-0.817	1.909
PEOU4	1	6	-0.694	0.860
PEOU5	1	6	-0.735	1.242
PEOU6	1	6	-0.725	0.730
FE1	1	6	-0.775	1.079
FE2	1	6	-0.753	1.111
FE3	1	6	-0.872	0.759
FE4	1	6	-0.629	0.713
FE5	1	6	-0.677	0.807
FE6	1	6	-0.431	0.700
FE7	1	6	-0.634	0.428
PPE1	1	6	-1.144	2.960
PPE2	1	6	-1.117	2.054
PPE3	1	6	-1.203	2.749
BI1	1	6	-0.278	0.012
BI2	1	6	-0.444	0.010
BI3	1	6	-0.540	-0.059

5.3 Respondents' Profile and Characteristics

This study focused on the extent of underlying behavioural, attitudinal, and experiential psychology factors in influencing an online purchase. Even before the COVID-19 pandemic, virtual shopping was already trending into consumers' lifestyles. From contact consumerism to virtual or what termed 'untact' consumerism which means non-physical interaction transactions between providers and customers (Moon et al., 2021), from online shopping sites to chatbots and applications. Given the widely available online shopping population, many who were approached for this research have agreed to participate as online shopping is so integral to our lives today that it would be difficult to find non-online shoppers amongst us. Hence, from the onset of this study, the researcher aimed to collect a considerable sample size. A total of 650-700 questionnaires were distributed to residents from Klang Valley urban areas, namely Kuala Lumpur and Petaling Jaya. No respondents who are residents from other countries have been considered as online shoppers' maturity, shopping experience and expectations may differ from country to country and may cause the results to be diluted.

Table 5.2 presents the respondents demographic profiles and characteristics. Of the 601 samples collected, slightly more than half of them are female respondents (n=324) whilst 46% (n=277) are male respondents.

Table 5.2

Respondents Demographic Profiles and Characteristics

Variable	Category	Frequency	Percentage
Gender	Male	277	46%
	Female	324	54%
	Others	-	-
Age	18-29 years old	263	44%
	30-39 years old	168	28%
	40-49 years old	109	18%
	50+ years old	61	10%
Ethnicity	Malay	244	41%
	Chinese	257	43%
	Indian	95	16%
	Others	5	1%
Education Level	Primary / Elementary	4	1%
	Secondary / High School	16	3%
	College	185	31%
	Bachelor's Degree	287	48%
	Post-Graduate; Masters, PhD	109	18%
Profession	Student	134	22%
	Professional	343	57%
	Business Owner	89	15%
	Blue Collar Worker	9	1%
	Retired	9	1%
	Others	17	3%
Monthly Household Income	Below RM2,000	10	2%
	RM2,001 – RM5,000	24	4%
	RM5,001 – RM10,000	62	10%
	RM10,001 and above	505	84%
Online Shopping Frequency	Very Often	376	63%
	Moderately Often	160	27%
	Slightly Often	59	10%
	Not At All Often	6	1%

The total sample comprised of different age bands; 44% (263) of the usable sample are 18-29 years old, 28% (168) are 30-39 years old, 18% (109) are 40-49 years old and 10% (61) are made up of individuals above 50 years old. According to Kundu

(2021), generational age is found to have varied trends in online shopping, from Gen Z to Boomers. Gen Z are those born between 1997-2012 (9-24 years old), Millennials are born between 1981-1996 (25-40 years old), Gen X are born between 1965-1980 (56-41 years old) and Boomers are born between 1946-1964 (57-75 years old) (Dimock, 2019). Kundu (2021) reported that Millennials and Gen Zers dominate online retail activities, but it is the Boomers who has presented the largest shift to e-commerce since the start of the pandemic, with an increase from 25% to 37% (Kundu, 2021).

In terms of ethnicity, the respondents are mainly from a mixed of multi-racial background, reflective of the Malaysian population (DOSM, 2022). The collected sample is made up of predominantly Chinese at 43%, followed by Malays at 41% and the minority being Indians at 16%. Less than 1% of the sample are from other races. While according to the Malaysia Department of Statistics portal, the population ethnicity split is 67.4% Malays and Bumiputeras, 24.6% Chinese, Indians at 7.3% and others at 0.7% (DOSM, 2022), the respondents' ethnicity split for the present study is considered acceptable as Malays and Chinese remain the two major ethnic groups in the sample. 97% of total respondents have an education background of at least college level (31%), bachelor's degree (48%), post-graduate level of master's or PhD (18%). 20 respondents have an education level of only up to primary (1%) or secondary school (3%).

Only 6% of respondents have monthly household income below RM5,000 while 10% have monthly household income between RM5,000 to RM10,000 and a big proportion of 84% surpassing RM10,000. This may appear that the respondents are mainly from higher income groups rather than reflecting the general income group of the Malaysians at large. Care has been taken to ensure this is not the case. As all the respondents for this research are residents in the Klang Valley area, household income of RM10,000 and above in this territory is in fact reflective of the middle class, average income earners, therefore allowing generalization of the results. DOSM (2021) shows

that in 2020, the mean income level in Federal Territory Putrajaya, Federal Territory Kuala Lumpur and Selangor state are RM12,322, RM11,728 and RM9,668 respectively.

5.4 Validating the Measurement Model

To perform Structural Equation Modelling (SEM) to test the proposed research model, Anderson and Gerbing (1988) recommended a two steps approach where the estimation of the measurement model and the structural model are conducted separately. This section discusses the estimation of the measurement model which explains the relationship between the constructs and their measures. In Section 5.4.2, data was tested for convergent validity and reliability using confirmatory analysis (CFA), with the use of AMOS statistical software. Measurement model validity depends on establishing acceptable levels of goodness-of-fit and specific evidence of construct validity (Hair et al., 2019).

As shown in the Table 4.9, the measurement model for this study includes 34 items, describing 8 latent constructs; attitude towards online shopping (ATU), subjective norm (SN), perceived behavioural control (PBC), perceived usefulness (PU), perceived ease of use (PEOU), purchase intention (PI), the experience of Flow (FL) and past purchase experience (PPE).

5.4.1 Assessment of Model Fit

The criteria used in the evaluation of model fit is justified by absolute fit indices, incremental fit indices and parsimonious fit indices – Goodness-of-Fit (GFI), root mean square error of approximation (RMSEA), Tucker-Lewis index (TLI), comparative index (CFI) and Normed Chi-square (χ^2/df) (Hair et al., 2019). Table 19 summarizes the model fit criteria and the desired level of acceptance for a good model fit as suggested by Hair et al. (2019).

Table 5.3

Goodness-of-Fit Index Criteria

Category of Fitness	Category of Index	Level of Acceptance	Comments
Absolute Fit Index	Goodness-of-Fit (GFI)	≥ 0.90	Value 0 is a poor fit, value Value 1 is a perfect fit.
	Root Mean Square Error of Approximation (RMSEA)	≤ 0.80	Value less than 0.05 is perfect fit, between 0.05 to 0.08 is considered as acceptable fit
Incremental Fit Index	Tucker Lewis Index (TLI) Comparative Index (CFI)	> 0.90	Value 0 is poor fit. Value of 1 is perfect fit.
Parsimonious Fit Index	Normed Chi-square (χ^2/df)	1.0 – 5.0	Less than 3 is preferred, up to 5 is acceptable.

For this research model, Table 5.4 demonstrates that all goodness-of-fit indices fulfilled the required threshold values with the exception of Goodness-of-Fit (GFI) at 0.894, which was just slightly below the recommended value of minimum 0.90. However, the model can be considered relatively good fit as other Goodness-of-Fit indices have achieved the recommended values; RMSEA at 0.048 (benchmark is ≤ 0.80), TLI at 0.947 (benchmark is > 0.90), CFI at 0.953 (benchmark is > 0.90) and Normed Chi-square (χ^2/df) at 2.320 (benchmark is 1-5). The measurement model good-fit assessment demonstrated

that the criteria are achieved. In the next section, the model for validity and reliability of the constructs in the measurement of the research model will be tested.

Table 5.4

Goodness-of-Fit Indexes for the Measurement Model

Category of Index	Level of Acceptance*	Values
Goodness of fit (GFI)	≥ 0.90	0.894
Root Mean Square Error of Approximation (RMSEA)	≤ 0.80	0.048
Tucker Lewis Index (TLI)	> 0.90	0.947
Comparative Index (CFI)	> 0.90	0.953
Normed Chi-square (χ^2/df)	1.0 – 5.0	2.320
Chi-Square		1157.709
Degree of Freedom Df		499

*Note: *level of value accepted for a good measurement fit was based on the suggestion by Hair et al. (2019)*

5.4.2 Assessment of Convergent Validity and Reliability

Convergent validity determines if other measures correlate with the same construct. It means the items of a specific construct should share a high proportion of variance in common. Convergent validity is met when the criteria of factor loading (FL) and Average Variance Extracted (AVE) criteria and Composite Reliability (CR) are met (Hair et al., 2019). For this research, Cronbach's Alpha (Cα) is also used to assess the construct reliability.

According to Hair et al. (2019), the size of factor loading for every item should be 0.50 or more and in most cases of established measurement items it should be ideally 0.70 or higher. A good factor loading threshold should be at least 0.60 or more. Table 5.5 shows that factor loading value for the variables ranges from 0.852 to 0.874 for attitude towards online shopping, 0.814 to 0.951 for subjective norm, 0.847 to 0.912 for perceived behavioural control, 0.811 to 0.875 for purchase intention, 0.741 to 0.868 for perceived usefulness, 0.780 to 0.860 for perceived ease of use, 0.691 to 0.841 for Flow and 0.869 to 0.896 for past purchase experience. The result has shown that the factor loading for all variables in this research model exceeds 0.60, the minimum threshold value recommended by Hair et al. (2019). This indicates that all the items for latent variables fulfilled the requirements of convergent validity.

Average variance extracted (AVE) refers to the mean variance extracted for the items loading on a construct, an indicator of convergence of items representing the construct. AVE should not be greater than the square of the correlation between two factors for proof of discriminant validity. Convergent validity is supported when AVE is equal or more than 0.50 in value (Hair et al., 2019). Fornell and Larcker (1981) explained that AVE measures the error-free variance from a set of items of a construct (Fornell & Larcker, 1981). Table 5.5 presents the AVE value for all constructs and shows they are all above the minimum threshold of 0.50. For the present study, the AVE for all constructs range from 0.596 to 0.783. AVE values for respective variables measured are 0.751 for attitude towards online shopping, 0.783 for the subjective norm in the context of online purchase, 0.769 for perceived behavioural control, 0.703 for purchase intention, 0.606 for perceived usefulness, 0.677 for perceived ease of use, 0.596 for Flow and finally, 0.779 for past purchase experience. As all the values of AVE are above the minimum threshold of 0.50, it means that the convergent validity among the constructs is fulfilled.

The reliability of the measurement model for this research is also assessed based on Composite Reliability (CR) and Cronbach's Alpha values. Table 5.5 shows that constructs fulfilled the recommended value of composite reliability and Cronbach's Alpha values more than 0.70 as recommended by Bagozzi and Yi (1988). Table 5.5 listed out the composite reliability and Cronbach's Alpha for each variable. Attitude towards online shopping (CR=0.900, α=0.900), subjective norm (CR=0.878, α=0.872), perceived behavioural control (CR=0.909, α=0.908), purchase intention (CR=0.905, α=0.904), perceived usefulness (CR=0.902, α=0.899), perceived ease of use (CR=0.926, α=0.924), Flow (CR=0.911, α=0.909) and past purchase experience (CR=0.914, α=0.913). The result shows both composite reliability and Cronbach's Alpha are above the minimum cut-off value of 0.70 for all constructs. It means that all the items within the particular variable satisfied the requirements of reliability analysis.

The results of the data analysis in summary thus far have shown that convergent validity for items and variables is adequate and satisfied at all levels. Values for factor loading (FL), average variance extracted (AVE), composite reliability (CR) and Cronbach's Alpha (Cα) for the studied variables were all above the recommended thresholds (Hair et. al 2019). As such, it can be claimed that all the convergent validity for this study is established. The subsequent section will present the result of discriminant validity.

Table 5.5

Validity and Reliability Test

Constructs	Items	Indicator	FL > 0.6	CR > 0.7	AVE > 0.5	Cα > 0.7
Attitude Towards Online Shopping	1) I think online shopping is a wise idea.	ATU1	0.852	0.900	0.751	0.900
	2) I think online shopping is a good idea.	ATU2	0.874			
	3) I like online shopping.	ATU3	0.873			
Subjective Norm	4) Most people who are important in my life think that I should make a purchase online.	SN1	0.814	0.878	0.783	0.872
	5) Most people who are important in my life whose opinion I would value would approve of me making a purchase online.	SN2	0.951			
Perceived Behavioural Control	6) I am capable of buying things online.	PBC1	0.871	0.909	0.769	0.908
	7) Online shopping is entirely within my control.	PBC2	0.847			
	8) I have the resources and the knowledge and the ability to buy things online.	PBC3	0.912			
Purchase Intention	9) I will definitely buy online in the near future.	PI1	0.844	0.905	0.703	0.904
	10) I intend to buy online in the near future.	PI2	0.875			
	11) It is likely that I will make an online purchase in the near future.	PI3	0.823			
	12) I expect to make an online purchase in the near future.	PI4	0.811			
Perceived Usefulness	13) Using online to shop would enable me to accomplish my tasks more quickly.	PU1	0.755	0.902	0.606	0.899

	14) Online shopping helps to improve my overall performance in getting things done.	PU2	0.868			
	15) Using online to shop increases my productivity.	PU3	0.741			
	16) Using online to shop is effective to get things done.	PU4	0.752			
	17) Using online to shop is easy.	PU5	0.786			
	18) Using online to shop is useful.	PU6	0.762			
Flow	19) I have experienced Flow while shopping online.	FL1	0.771	0.911	0.596	0.909
	20) I experience Flow frequently when shopping online.	FL2	0.841			
	21) Most of the time, when I shop online, I feel I am in Flow.	FL3	0.747			
	22) When online shopping, I feel in control of my interaction with the web.	FL4	0.691			
	23) When navigating my favourite online shopping sites, I am totally absorbed in what I am doing.	FL5	0.829			
	24) Navigating my favourite online shopping sites excites my curiosity and arouses my imagination.	FL6	0.767			
	25) Using my favourite online shopping sites is interesting and fun.	FL7	0.749			
Perceived Ease of Use	26) Learning to shop online is easy for me.	PEOU1	0.816	0.926	0.677	0.924
	27) I find it easy to shop online.	PEOU2	0.817			

	28) I find interaction with the information system during online shopping is clear and understandable.	PEOU3	0.860			
	29) I find online shopping flexible to interact with.	PEOU4	0.780			
	30) I find it easy to be skilful at online shopping.	PEOU5	0.843			
	31) I find shopping online is easy to do.	PEOU6	0.818			
Past Purchase Experience	32) Past online purchase experiences make me feel comfortable to shop online.	PPE1	0.869	0.914	0.779	0.913
	33) Past online purchase experiences give me confidence to shop online in the future.	PPE2	0.896			
	34) Past online experiences facilitate my purchase decision-making processes.	PPE3	0.885			

Notes: Recommended thresholds: Factor Loading (FL > 0.60), Composite Reliability (C.R > 0.6), Average Variance Extracted (AVE > 0.5) and Cronbach Alpha (Cα > 0.7) (Hair et al., 2019).

5.4.3 Assessment of Discriminant Validity

According to Hair et al. (2014), discriminant validity refers to the extent of distinction among constructs and how each construct correlates with other constructs to avoid overlapping of constructs (Hair et al., 2014). For this research, discriminant validity is measured using the approach recommended by Fornell and Larker (1981). The results of correlation mix composite reliability (CR) and Average Variance Extracted (AVE) were calculated using the statistical script created by Gaskin (2012).

For this study, Fornell and Larker's (1981) criteria was used to test discriminant validity. The correlations between variables in the model are compared against the square root of AVE for a given variable. The values of the square root of AVE are presented in

Table 5.6 (bold and italic). Discriminant validity of a specific variable is established when the value of the square root of each variable's AVE is greater than its correlation with any other variables (Hair et al., 2019; Henseler et al., 2014). The results in Table 5.6 shows that the square root of AVE (bold and italics) of each variable in the measurement model is higher than its correlation with other variables. Based on the output above, it can be confirmed that discriminant validity is achieved in this study.

Table 5.6

Discriminant Validity Test

	CR	AVE	PEOU	ATU	SN	PBC	PI	PU	FL	PPE
PEOU	0.926	0.677	***0.823***							
ATU	0.900	0.751	0.532	***0.866***						
SN	0.878	0.783	0.267	0.317	***0.885***					
PBC	0.909	0.769	0.502	0.417	0.221	***0.877***				
PI	0.905	0.703	0.514	0.393	0.201	0.461	***0.839***			
PU	0.902	0.606	0.376	0.297	0.145	0.265	0.358	***0.779***		
FL	0.911	0.596	0.401	0.330	0.140	0.243	0.321	0.313	***0.772***	
PPE	0.914	0.779	0.545	0.568	0.233	0.472	0.525	0.304	0.353	***0.883***

In summary, the requirements for the measurement model for this study are all met. Statistically, it is evident that the model is a good-fit and has satisfied the requirements of both convergent and discriminant validity. The following section will discuss assessments of the structural model.

5.4.4 Common Method Bias Test

The issue of common method bias may arise when variations in responses are caused by the instrument rather than the actual tendencies of the respondents themselves.

Biasness or variances may occur in the data analyses causing inaccurate internal correlation and consistency among variables (Podsakoff et al., 2003). Podsakoff et al. (2003) recommended the use of Harman's single factor score where all items measuring the latent variables are loaded into one common factor. Malhotra et al. (2006) suggest that common method bias will not be an issue if all items of the constructs are modelled as a single factor is not fit. Upon analysis, the result of the single factor model was found not to be fit. Refer to Table 5.7 for detailed findings. Therefore, it can be concluded that common method bias testing is cleared, proving that there is no significant common method variance, no overlap in variance between two variables due to a relationship overlap between the underlying constructs. Having fulfilled the reliability, validity, and common method bias requirements, the researcher can now proceed to analyse the structural model and hypotheses testing.

Table 5.7

Common Method Variance Test Results

Category of Index	Level of Acceptance*	Original Model Fit	Common Method Bias Test
Goodness of fit (GFI)	≥ 0.90	0.894	0.451
Root Mean Square Error of Approximation (RMSEA)	≤ 0.80	0.048	0.161
Tucker Lewis Index (TLI)	> 0.90	0.947	0.392
Comparative Index (CFI)	> 0.90	0.953	0.429
Normed Chi-square (χ^2/df)	1.0 – 5.0	2.32	16.014
Chi-Square		1157.709	8453.685
Degree of Freedom Df		499	527

*Note: *level of value accepted for a good measurement fit was based on the suggestion by Hair et al. (2019)*

5.5 The Structural Model

While the measurement model describes the links between latent variables and their observed measures, the structural model represents the magnitude of the relationships among the unobserved or latent variables (Bryne, 2010), whether constructs are related to each other or otherwise. The structural model here is analysed using Structural Equation Modelling (SEM), a popular statistical tool for social sciences (Tomarken & Waller, 2005), so much so that it has also been referred to as covariance structure analysis, causal modelling or causal analysis (Hair et al., 2019).

SEM applies well for structural model analysis as it has a strong theoretical based approach. The research model of this research integrates established attitudinal, behavioural, and experiential based theoretical models to understand triggers that drive an online browser to become an online buyer. SEM is used to test 16 causal paths, from hypothesis H_1 to H_{16}. The researcher started by examining the structural model fit to ensure it is a good fit and acceptable. Results shown in Table 5.8. Upon which, the next step is to proceed to analyse the structural links.

Table 5.8

Goodness-of-Fit Indexes for the Structural Model

Category of Index	Level of Acceptance	Values
Goodness-of-fit (GFI)	≥ 0.90	0.894
Root Mean Square Error of Approximation (RMSEA)	≤ 0.80	0.051
Tucker Lewis Index (TLI)	> 0.90	0.944
Comparative Index (CFI)	> 0.90	0.950
Normed Chi-square (χ^2/df)	1.0 – 5.0	2.487
Chi-Square		1034.440
Degree of Freedom Df		416

Table 5.8 demonstrates that all goodness-of-fit indices fulfilled the required threshold values except for Goodness-of-Fit (GFI) at 0.894, which was just slightly below the recommended value of minimum 0.90. However, the model can be considered relatively good fit as other Goodness-of-Fit indices achieved the recommended values; RMSEA at 0.051 (benchmark is ≤ 0.80), TLI at 0.944 (benchmark is > 0.90), CFI at 0.950 (benchmark is > 0.90) and Normed Chi-square (χ^2/df) at 2.487 (benchmark is 1-5).

5.5.1 Path Analysis

Results of the path analysis of the structural model are presented in Table 5.9 (standard estimates β, critical ratio and p-value) and Figure 5.1 visualises the results on the structural research model. Table 5.9 shows that perceived ease of use positively influences perceived usefulness (β=0.385, $p<0.001$). Perceived ease of use also has a positive effect on attitude towards online shopping (β=0.335, $p<0.001$) and online

purchase intention (β=0.261, p<0.001). While perceived usefulness has no significant impact on attitude towards online shipping (β=0.069, not significant), it has a direct positive relationship with the online shopping intention (β=0.146, p<0.001) variable. This possibly explains why attitude towards online shopping does not have any significant influence on online purchase intention (β=0.080, not significant).

The pandemic has caused an abrupt shift to consumer behaviour towards e-commerce and online shopping. It is evident in the findings that the subjective norm may positively influence the attitude towards online shopping (β=0.166, p<0.001) but it has no significant influence on online purchase intention (β=0.021, not significant). With the proliferation of online shopping in consumers' daily lives, it is less about others' opinion on their decision to shop online, more about the consumer experience while shopping online (Gramling, 2021). Comparatively, the findings revealed that perceived behavioural control; referring to elements like skills and abilities, opportunities and resources required to perform the behaviour (Ajzen, 1991) have significant impact on attitude towards online shopping (β=0.167, p<0.001) and online purchase intention (β=0.234, p<0.001).

The results of the impact of the elusive Flow concept on shopping behaviour is interesting. The state of Flow sufficiently affects the attitude towards online shopping (β=0.110, p<0.05) and online purchase intention (β=0.086, p<0.05). Overall, the results of path analysis shown in Table 5.9 indicates that out of 12 hypothesised causal paths, 9 are found to be significant relationships, 3 are not. Hypotheses H_1, H_3, H_5, H_6, H_9, H_{12}, H_{13}, H_{15} and H_{16} are significant, while H_2, H_8 and H_{10} are not significant.

Table 5.9

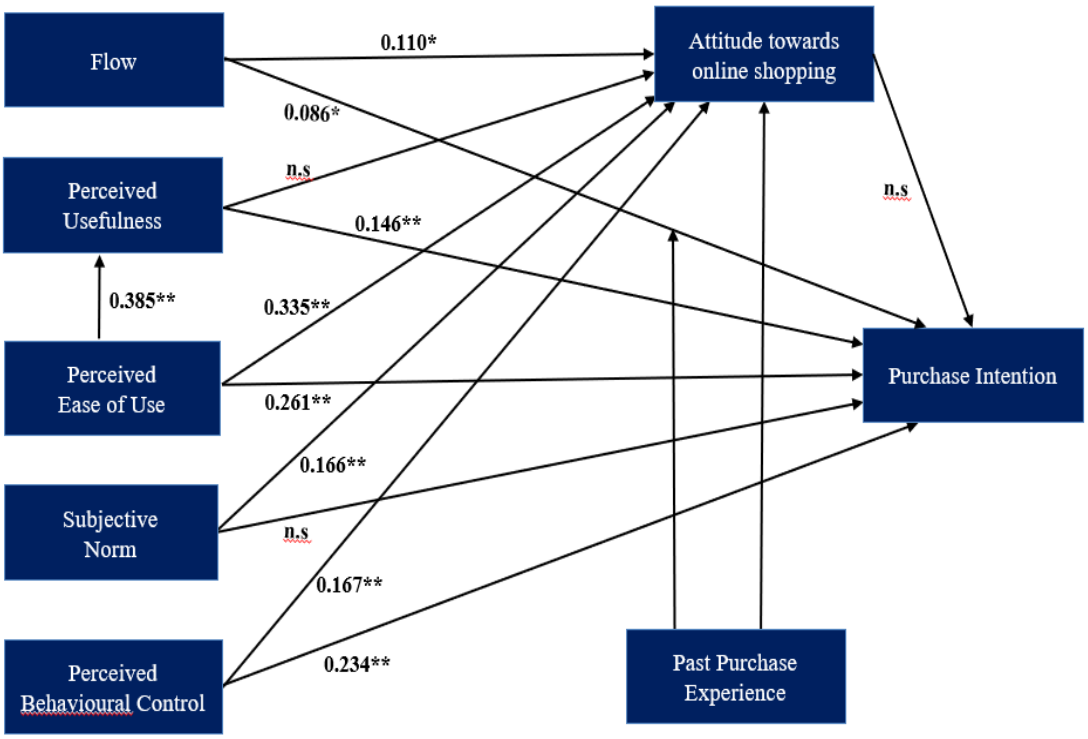
Results of Path Analysis

Paths	S.E.	C.R.	P Value
H_1 : Perceived ease of use → perceived usefulness	0.385	8.498	0.000
H_2 : Perceived usefulness → attitude towards online shopping	0.069	1.639	0.051
H_3 : Perceived usefulness → online purchase intention	0.146	3.443	0.000
H_5 : Perceived ease of use → attitude towards online shopping	0.335	6.240	0.000
H_6 : Perceived ease of use → online purchase intention	0.261	4.693	0.000
H_8 : Attitude towards online shopping → online purchase intention	0.080	1.628	0.052
H_9 : Subjective norm → attitude towards online shopping	0.166	4.120	0.000
H_{10} : Subjective norm → online purchase intention	0.021	0.528	0.299
H_{12} : Perceived behavioural control → attitude towards online shopping	0.167	3.644	0.000
H_{13} : Perceived behavioural control → online purchase intention	0.234	5.002	0.000
H_{15} : Flow → attitude towards online shopping	0.110	2.589	0.005
H_{16} : Flow → online purchase intention	0.086	2.021	0.022

Note: S.E. is Standardised Estimates, C.R. is Critical Ratio

Figure 5.1

Structural Research Model



Note: **p-value < 0.001, *p-value < 0.05, n.s = not significant

5.6 Testing the Mediation Effect

In the present study, there are 7 indirect paths tested. H_4, H_7, H_{11}, H_{14} and H_{17} for mediating effect and H_{18} and H_{19} for moderating effect. Testing mediating effect of attitude towards online shopping on a series of relationships between perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control and Flow and online purchase intention. Testing moderating effect of past purchase experience between Flow and purchase intention and between attitude towards online shopping and purchase intention.

Prior to the mediation testing, it is well noted that the current result does not support the hypothesis that attitude towards online shopping significantly influences purchase intention. However, the researcher believes that it is still viable based on Andrew F. Hayes (2013) in his book, "Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach". Baron and Kenny (1986) guided researchers for decades with the idea that there should be a significant relationship between the independent variable and the dependent variable before mediation analysis can be performed (Igartua & Hayes, 2021). Reason given; mediation analysis aims to explain how the independent variable affects the dependent variable through the mediating variable. If the independent variable and dependent variable do not have a significant relationship, there is no direct effect to mediate. However, Hayes (2013) in his book outlined a comprehensive approach to conducting mediation analysis and believes strongly that mediation analysis can still be conducted even if one cannot explicitly establish an existing causality relationship. Theory is the only foundation which causal claim is built upon given limitations of data collected. It was stated that lack of correlation does not disprove causation (Bollen, 1989, as cited by Igartua & Hayes, 2021) which means that just because two variables don't appear to show statistical correlation, it doesn't mean that there is no cause-and-effect relationship between them. Causation effects can be complex and might not be apparent through correlation alone. Hayes (2013) believes that there is no problem in conducting mediation analysis even if there is no significant causal relationship between the independent and dependent variables.

Building on the same point, Hofmann et al. (2020) explained that independent, dependent and mediator variables are not necessarily in a strict unidirectional and stable relationship. It is commonly bidirectional and can change over time. According to Hayes (2013), researchers can place too much meaning on the mathematical procedures, when they can apply any mathematical method, they want to understand and model

relationships between variables. Examining mediation in cases where the initial relationship of the independent and dependent variables is not significant but where mediation effects through the mediator are of interest, it gives the researcher the opportunity to explore more complex relationships which can be helpful for certain research.

The indirect effects were tested using the bootstrap technique with AMOS. To determine the indirect mediation effect, the researcher extracted from AMOS the indirect, direct and total effects in the output. The series of results shown in Table 5.10 were achieved based on 95% bias-corrected confidence intervals with bootstrapping technique on 5,000 bootstrap samples. If the range of the upper bound and lower bound estimates of the indirect effect obtained do not cross over a zero, then the indirect effect is considered significant (Collier, 2020). The confidence intervals show that perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control and Flow have an indirect mediation effect on online purchase intention via the individual's attitude towards online shopping.

With 95% bias-corrected confidence intervals, lower bound indirect effects and upper bound indirect effects, attitude towards online shopping has significant indirect effects on the relationship between perceived usefulness and purchase intention (lower level bound = 0.046; upper level bound = 0.161), between perceived ease of use and purchase intention (lower level bound = 0.031; upper level bound = 0.145), between subjective norm and purchase intention (lower level bound = 0.057; upper level bound = 0.146), between perceived behavioural control and purchase intention (lower level bound = 0.048; upper level bound = 0.159) and between Flow and purchase intention (lower level bound = 0.062; upper level bound = 0.194). As the values of lower level bound, and upper level bound are all do not straddle a zero in between indicates p-value is significant. It can be concluded that hypotheses H_4, H_7, H_{11}, H_{14} and H_{17} are supported. This means

that any changes in attitude will ultimately affect the relationship between the independent variables like perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control and Flow with purchase intention.

Table 5.10 also shows that the positive indirect effect is strongest with attitude towards online shopping on the relationship between Flow experience and purchase intention with an indirect effect value of 0.117, followed by the relationship between perceived behavioural control and purchase intention, with an indirect effect value of 0.095. The weakest indirect or mediating effect is with attitude towards online shopping on the relationship between perceived ease of use and purchase intention with the value of 0.084. It means that the changes in the intervening variable, attitude towards online shopping will affect the relationship between Flow and purchase intention the most and affect the relationship between perceived ease of use and purchase intention the least.

Table 5.10

Results of Mediation Testing / Indirect Effects

Relationship	**Direct Effect**	**Indirect Effect**	**Confidence Interval**	
			Lower Bound	Upper Bound
Perceived Usefulness > Attitude > Purchase Intention	0.332	0.094	0.046	0.161
			Lower Bound	Upper Bound
Perceived Ease of Use > Attitude > Purchase Intention	0.399	0.084	0.031	0.145

			Lower Bound	Upper Bound
Subjective Norm > Attitude > Purchase Intention	0.292	0.093	0.057	0.146
			Lower Bound	Upper Bound
Perceived Behavioural Control > Attitude > Purchase Intention	0.334	0.095	0.048	0.159
			Lower Bound	Upper Bound
Flow > Attitude > Purchase Intention	0.236	0.117	0.062	0.194

5.7 Testing the Moderation Effect

In this study, it is hypothesised that the independent variable past online purchase experience moderates the relationships between Flow and purchase intention and between attitude towards online shopping and purchase intention. This is referring to hypotheses H_{18} and H_{19} respectively. It is hypothesised that customers with prior positive online purchase experience have a higher propensity to make an online purchase than those who lack such experience (Mondol et al., 2021).

In testing moderation effect with AMOS, mean value for independent variable and moderating variable is first derived to form a new variable that is mean-centred. From there, the researcher can determine if the interaction between the moderator and independent variable influences the strength of the relationship between independent variable and the dependent variable. Table 5.11 highlights the assessment of the moderating role of past purchase experience on the relationship between Flow and purchase intention, and between attitude and purchase intention. Result shows an

insignificant moderating impact of past purchase experience on the relationship between Flow on purchase intention (S.E. = 0.028, C.R. = -1.371, P-Value = 0.170). H_{18} is not supported. The moderating role of past purchase experience on the relationship between attitude and purchase intention is also found to be insignificant (S.E. = 0.02, C.R. = 0.91, P-Value = 0.363). H_{19} is not supported. It means that the level of past purchase experience does not associate Flow with purchase intention nor attitude towards online shopping with purchase intention. Hypotheses H_{18} and H_{19} in this present study are not supported.

Table 5.11

Results of the Moderation Effect

1. Past purchase experience (PPE) moderates the relationship between Flow (FL) and purchase intention (PI)

Mean value for independent variable and moderating variable.

	N	Minimum	Maximum	Mean	Std. Deviation
FLmx	583	1.29	7.00	4.9194	0.90007
PPEmx	583	1.00	7.00	5.2493	0.99329
Valid N (listwise)	583				

New variable that is mean centred.

	N	Minimum	Maximum	Mean	Std. Deviation
centerFL	583	-3.63	2.08	0.0000	0.90007
centerPPE	583	-4.25	1.75	0.0000	0.99329

Valid N (listwise)	583

Interaction term

			Estimate	S.E.	C.R.	P- Value
PImx	<---	FLmx	0.163	0.041	3.969	***
PImx	<---	PPEmx	0.406	0.038	10.682	***
PImx	<---	interFLxPPE	-0.038	0.028	-1.371	0.170

2. Past purchase experience (ATU) moderates the relationship between Flow (FL) and purchase intention (PI)

Mean value for independent variable and moderating variable.

	N	Minimum	Maximum	Mean	Std. Deviation
ATUx	583	1.33	7.00	5.2830	1.05053
PPEmx	583	1.00	7.00	5.2493	0.99329
Valid N (listwise)	583				

New variable that is mean centred.

	N	Minimum	Maximum	Mean	Std. Deviation
centerATU	583	-3.95	1.72	0.0000	1.05053
centerPPE	583	-4.25	1.75	0.0000	0.99329
Valid N (listwise)	583				

Interaction term

			Estimate	S.E.	C.R.	P-Value
PImx	<---	ATUx	0.147	0.04	3.644	***
PImx	<---	PPEmx	0.408	0.044	9.344	***
PImx	<---	interATUxPPE	0.018	0.02	0.91	0.363

5.8 Chapter Summary

This chapter provided the results in the data analyses, validating research instruments and testing of hypotheses outlined in Chapter 3. SEM AMOS was used to analyse the measurement model and structural model on the relationship between perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, Flow, attitude towards online shopping, and purchase intention. AMOS is also used to test the mediating effect of attitude towards online shopping between key constructs and purchase intention and to test moderating effect of past purchase experience between Flow and attitude and purchase intention.

The results revealed that out of 19 hypotheses tested in the model, 14 were supported while 5 were not supported. The result summary of the hypothesis tests for this study is presented in Table 5.12. The next chapter discusses the interpretation, implications, and conclusions from the results of this study.

Table 5.12

Summary of Findings

	Hypothesis	Result
H_1	Perceived ease of use positively influences perceived usefulness.	Supported
H_2	Perceived usefulness positively influences attitude towards online shopping.	Not supported
H_3	Perceived usefulness positively influences online purchase intention.	Supported
H_4	There is a positive relationship between perceived usefulness and purchase intention, mediated by attitude towards online shopping.	Supported
H_5	Perceived ease of use positively influences attitude towards online shopping.	Supported
H_6	Perceived ease of use positively influences online purchase intention.	Supported
H_7	There is a positive relationship between perceived ease of use and purchase intention, mediated by attitude towards online shopping.	Supported
H_8	Attitude towards online shopping positively influences online purchase intention.	Not supported
H_9	Subjective norm positively influences attitude towards online shopping.	Supported
H_{10}	Subjective norm positively influences online purchase intention.	Not supported
H_{11}	There is a positive relationship between subjective norm and purchase intention, mediated by attitude towards online shopping.	Supported
H_{12}	Perceived behavioural control positively influences attitude towards online shopping.	Supported
H_{13}	Perceived behavioural control positively influences online purchase intention.	Supported
H_{14}	There is a positive relationship between perceived behavioural control and purchase intention, mediated by attitude towards online shopping.	Supported
H_{15}	Flow positively influences attitude towards online shopping.	Supported
H_{16}	Flow positively influences online purchase intention.	Supported
H_{17}	There is a positive relationship between Flow and purchase intention, mediated by attitude towards online shopping.	Supported
H_{18}	There is a positive relationship between Flow and purchase intention, moderated by past purchase experience.	Not supported
H_{19}	There is a positive relationship between attitude towards online shopping and purchase intention, moderated by past purchase experience	Not supported

CHAPTER 6: DISCUSSIONS AND CONCLUSION

6.1 Introduction

In the current digital age where e-commerce plays a pivotal role in retail and overall business, understanding and addressing the challenges of low online conversation rate and high cart is vital. To tackle these issues effectively, this research hopes to provide user-centric insights based on the combination of the Technology Acceptance Model (TAM) (Davis, 1989), the Theory of Planned Behaviour (TPB) (Ajzen, 1991; Fishbein & Ajzen, 1975) and the concept of Flow experience (Csikszentmihalyi, 1975). This research is set out to empirically uncover factors influencing online purchase throughout the heterogenous path to purchase, from the attitudinal, behavioural, and experiential psychological perspectives. Hypotheses were drawn from the three well-established theories to explain what the main triggers of online purchase intention, enhancing conversion rate. Earlier chapters outlined background of the research, review of previous related literature, discussion of the research model, hypotheses, and research methods. In this last chapter, analysis of the results was done based on the data collected.

In this chapter, Section 6.2, 6.2.1 to 6.2.3 answer the first and second research objectives, to assess the influence of consumer behavioural factors and immersive experience on online purchase intention. It discusses the results of the study, the relationships between key constructs and reviews the hypotheses testing as reported in the previous chapter. Covering in detail the perspective on the relationships or causal effects between main constructs from the three underpinning theories of the research model; the Technology Acceptance Model, the Theory of Planned Behaviour, and the Flow concept, explaining the relationships between perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, attitude towards online shopping and immersive Flow experience on purchase intention. Section 6.3 answers the third objective, discussing the moderating effect of past purchase experience on the

relationships between Flow and purchase intention and between attitude and purchase intention. Section 6.4 addresses the final research objective to review if online purchase behaviour amidst COVID-19 pandemic challenges hypotheses instilled by the well-established behavioural theories like the Technology Acceptance Model, the Theory of Planned Behaviour, and the Flow concept.

The theoretical contributions and practical contributions to actual marketing practices and applications from a managerial perspective are covered in Section 6.5 and 6.6 respectively. Section 6.7 addresses the research gaps identified in Chapter 1, i.e., lack of robust approach in combining multiple aspects of behaviour, no unified model or approach in understanding influences of online purchase intention and constant need to advance behavioural studies as the online consumer landscape rapidly evolves. This is followed by a discussion on the limitations of this study in Section 6.8 and direction for further research in the future in Section 6.9. Finally, Section 6.10 provides the conclusion remarks for this chapter and the thesis overall.

6.2 Discussion of Research Findings - The Relationships Between Key Constructs

The first objective is to assess the influence of consumer behavioural factors such as perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, attitude and Flow that are affecting customers' online purchase intention. Consumer behaviour in general is a highly complex topic with many interdependent factors. It is constantly under-developed as consumer behaviour continuously evolves with the technology advances and changes in the social environment (Rubin et al., 2020). One of the most prevalent events that happened and still happening to all of us is the remnants of COVID-19 pandemic effect that sent shocks to our system globally, causing an unprecedented shift in consumer behaviour, in the way they live, work and play (Yan,

2020). New habits emerged with the blurring of boundaries, referring to workplace, leisure time and education (Sharif & Naghavi, 2021).

Hence, it is appropriate that this study with a comprehensive research model is developed to explain factors influencing online purchase behaviour with the added context of this unfortunate phenomenon of COVID-19 pandemic. Second research objective is to examine the relationship between Flow, immersive shopping experience towards attitude and purchase intention. For both research objectives, the extensive review of literature and combination of various theories related to online purchase behaviour in Chapter 2 has led to the development of the research model to explain the influences of each variable on online purchase intention. The outcome was a research model based on the integration of three well-established theories: the Technology Acceptance Model, the Theory of Planned Behaviour, and the concept of Flow experience. The findings of the 19 hypotheses in the research model are discussed in detail.

6.2.1 The Relationships Between Key Constructs in the Technology Acceptance Model

The first set of hypotheses is for the constructs in the Technology Acceptance Model. It examines the relationships between first order of constructs like perceived usefulness and perceived ease of use (Hypothesis 1) and second order of construct, attitude towards online shopping (Hypotheses 2 and 5) and the direct effect of perceived usefulness, perceived ease of use and attitude towards online shopping culminates on online purchase intention (Hypotheses 3, 6 and 8). It was hypothesised that perceived ease of use will have a positive effect on perceived usefulness which in turn has a positive effect on consumers' attitude towards online shopping. Both perceived ease of use and perceived usefulness would also have a direct positive effect on the attitude towards

online shopping and purchase intention. Not only attitude would have a direct positive effect on purchase intention, but it is also expected to mediate the relationships between perceived usefulness and perceived ease of use on purchase intention (Hypotheses 4 and 7). Perceived usefulness refers to the degree to which a consumer believes that online shopping will help them achieve their goals. In the context of online shopping, perceived usefulness can be influenced by factors such as the range of products available, ease of product search, product reviews, and delivery options. If a consumer perceives the online store as useful, they are more likely to have the intention to make a purchase. Perceived ease of use, on the other hand, refers to the degree to which a consumer believes that using the technology will be effortless and easy. In the context of online shopping, perceived ease of use can be influenced by factors such as website design, navigation, and checkout process. If a consumer perceives the online shopping process as easy to use, they are more likely to have the purchase intention.

The result shows that perceived ease of use significantly affects perceived usefulness. This is in line with Davis' (1989) findings that individuals who think that the system is difficult to use will deem that the effort outweighs the benefits of using the system. It means that even in the current times, this fact still holds true and that perceived ease of use of any e-commerce platform adds another aspect of usefulness that is theorized to influence perceived usefulness (Soares et al., 2022). The perceived usefulness is also indicated as highly important relative to the perceived ease of use (Hyun et al., 2021).

Perceived usefulness is found not to have any significant effect on attitude towards online purchase. This is not surprising as it could be due to the maturity of online platforms as a retail channel. Perceived usefulness of online shopping is an accepted social norm and will not affect the attitude towards online shopping in general especially during the pandemic situation. This is supported by research done on usage of mobile applications by Vahdat et al. (2020) and Van Der Heijden et al. (2003) on understanding

of online purchase intention. Other possible reasons why perceived usefulness may not be a major influence on attitude towards online shopping. In the COVID-19 pandemic environment, factors such as perceived risk and social influence or subjective norm may have a greater impact on attitudes. There could also be a lack of awareness of the usefulness of online shopping, which may limit the impact of perceived usefulness on their attitudes. Some consumers may have suffered negative experiences with online shopping such as delivery delays, incorrect orders, poor customer service or complicated payment gateway which may diminish the perceived usefulness of the online shopping experience. Some consumers may simply prefer traditional shopping methods and may not see the usefulness of online shopping as a viable alternative.

The present study found that perceived usefulness has a positive and significant influence on online purchase intent. The perceived usefulness or benefits from online shopping was amplified during COVID-19 time. Online shopping enables consumers to observe social distancing, not having to brave exposure to the virus while shopping from the comfort of their own homes (Iriani & Andjarwati, 2020). Similar results were also found by Soares et al. (2022), Mondol et al. (2021) and Wei et al. (2018). Wu & Song (2021) claimed that perceived usefulness of online shopping significantly affects both purchase intention and continued online purchase. While perceived usefulness did not have a significant influence on attitude towards online shopping, attitude was found to mediate the relationship between perceived usefulness and online purchase intention. This means that any changes in attitude will ultimately affect the relationship between perceived usefulness and online purchase intention. If the shopper feels that shopping online is a good idea and enjoys the overall experience, it is likely that it will trigger purchase intent. Similar results are found in past studies by Chen et. al (2002) study on appealing online customers from the perspective of technology acceptance, Cho (2004) on the influence of cognitive evaluations, attitudes, and elements of purchase behaviour,

and Putro and Haryanto (2015) on their research on factors impacting online purchase intention in Zalora Indonesia.

Chin and Goh (2017) found that perceived ease of use has the strongest effect on attitude towards making an online purchase, followed by perceived usefulness. In the present study, like perceived usefulness, perceived ease of use was also found to have significant influence on online purchase intention. The impact of perceived usefulness and perceived ease of use on purchase intention in the present study is supported by empirical studies in various context by Soares et al. (2022), Mondol et al. (2021), Athapaththu and Kulathunga (2018), Martin et al. (2015), Chen and Barnes (2007) and Gefen et al. (2003). This may not be true for all study environments. Recent studies by Prasetyo et al. (2021) and Wei et al. (2018) did not find perceived ease of use significant influence on online purchase intention as respondents in the said situations may find the difficulty in navigating through the purchase journey outweighs the benefits in making the online purchase. It was also found that attitude mediates the relationship between perceived ease of use and online purchase intention. Perceived ease of use also has a significant relationship with purchase intention through attitude towards online shopping. This means any change in attitude would eventually affect the relationship between perceived ease of use and online purchase intention. Akhlaq & Ahmed (2015) and Sin et. al (2012) shared similar results on the mediation effect of attitude towards online shopping on perceived usefulness and perceived ease of use on purchase intention. Both perceived usefulness and perceived ease of use are important independent variables because they can positively influence a consumer's attitude towards an online store, which in turn can lead to increased purchase intentions. When consumers perceive an online store as useful and easy to use, they are more likely to trust the online store and feel confident in their purchase decision.

Whilst studies from Vinerean (2020), Agag et al. (2019) and Raman (2019) established the strong relationship between attitude and intention, the result from this study proved otherwise. Attitude towards online shopping was found not to have a significant relationship with purchase intention. In a pandemic situation with limited movement outside of home, attitude towards online shopping appeared to have little bearing on the online purchase decision as there was no alternative. Whether a consumer has a positive or less than positive attitude towards online shopping, it was a necessary behaviour to adopt in the new normal lifestyle. The lack of association between attitude and purchase intention scenario has also been explained by Bagozzi (1992) that attitude could have an independent effect on intentions. It is easy to assume that when one has a positive attitude toward an action but still decides not to act as the motivation or opportunity to act may not be there. This could be due to the lack of desire to act, ability to act, lack of means or resources or moral concerns.

6.2.2 The Relationships Between Key Constructs in the Theory of Planned Behaviour

The second set of constructs is based on the Theory of Planned Behaviour model. The theory posits that individual behaviour is influenced by intentions which are shaped by attitudes, subjective norm and perceived behavioural control. The relationship between attitude towards online shopping and purchase intention has already been discussed in the previous section. It is argued that subjective norm and perceived behavioural control have would have a direct positive effect on the attitude towards online shopping (Hypotheses 9 and 12), online purchase intention (Hypotheses 10 and 13) and that attitude towards online shopping has a mediation effect on the relationships between subjective norm and purchase intention and between perceived behavioural control and purchase intention (Hypotheses 11 and 14).

Being one the most established theories in predicting consumer behaviour, the Theory of Planned Behaviour has been tested in multiple contexts and environments. The results from this study on the main constructs in the Theory of Planned Behaviours are aligned with reports by previous researchers such as Das et. al (2021), Yadav and Pathak (2017), Gopi M and T. Ramayah (2007), Hansen et al. (2004), and Limayem et al. (2000). The hypotheses of the first order of constructs; subjective norm and perceived behavioural control having significant influence on attitude towards online shopping and purchase intention are all supported, except for the poor performance of subjective norm as a strong determinant of purchase intention. Subjective norm refers to the social pressure on someone to participate in a certain behaviour (Ajzen et al., 1980), an outcome of normative belief and reason to conform. Yet, it is not an uncommon phenomenon where the subjective norm is not significant to influence purchase intention. Koch et al. (2020) established that normative influence from close social groups is not related to purchase intention and Wu & Song (2021) found that subjective norm was not significantly related to online shopping continuance intentions. Even prior to the pandemic era, Lim et al. (2016) found that the subjective norm does not directly influence the purchase intent, showing that social pressures from friends and families has only a small influence on the behaviour.

Armitage and Conner (2001) in reviewing efficacy of the Theory of Planned Behaviour found that subjective norm is generally a weak predictor of intention. Bagozzi (1992) explained that normative evaluation neglects the element of emotions and social context the person is in, whether a person is an independent agent, a member of a group, or a part of a formal organization. However, fast forward to recent times, Sharma and Jhamb (2020) pointed out that the COVID-19 outbreak since 2020 has put people into a survival mode, forcefully shifting consumer behaviour to adopt online shopping to avoid crowded gatherings. Social influence was not supported, rather it was herd behaviour that

drives behaviour during the pandemic (Erjavec & Manfreda, 2022). Other reasons include increased anonymity where online shoppers can shop anonymously without the social pressure hence feeling less influenced by the opinion of others, making purchase decisions based on their own preferences and needs. Consumers today also have a much greater access to information about products and services online including reviews, ratings and recommendations. This information allows consumers to make more informed purchase decisions instead of relying on subjective opinions of family and friends. As countries are entering the endemic phase (Edge, 2022), online shopping has become a utilitarian activity in people's daily lives and surpasses the existence of differentiating opinions of whether online shopping is a wise option or otherwise. Online shopping has become more accepted as a social norm. It is seen as a more practical and efficient way to shop, and the opinions of others may be less influential in shaping consumers' purchase decisions. This is coupled with the accelerated inclination towards digital adoption, this re-establishes the fact that the subjective norm in the current time is not a major influence on the intention to make an online purchase. With all the above reasons, it explains that the influence of subjective norm is less important than it was in the past.

Perceived behavioural control was found to positively influence both attitude and online purchase intention and to develop purchase intent. As perceived behavioural control relates to an individual's belief in their ability to navigate the online shopping process and complete a purchase, it remains a major influence on attitude towards online shopping even in today's environment. As online shopping can be a complex task given that it takes place in the digital space, perceived behavioural control increases consumer's confidence in their ability to navigate the shopping process, which in turn can positively influence their attitude towards online shopping. One of the key barriers to online shopping is the unpredictability during the purchasing process. With the feeling of more

in control and ability to overcome these barriers, which can also positively influence their attitude towards online shopping. Lastly, perceived behavioural control gives out a sense of empowerment to individuals. When individuals believe that they have control over their actions and are able to perform a certain behaviour, they feel empowered which can positively influence their attitude towards online shopping. When consumers believe that they have sufficient control over the purchase behaviour, they are more likely to perform the planned action of making a purchase. This can only happen if it is led by the intent to purchase (Barbera & Ajzen, 2021; Moon et al., 2021). Wu & Song (2021) found that the perceived behavioural control is also positively responsible for subsequent online purchases.

Perceived behavioural control refers to consumer's belief in their ability to navigate the online store and complete an online purchase. Perceived behavioural control is still a major influence on online purchase intention in today's environment probably due to the reason that online shopping involves a degree of complexity that may create a barrier to purchase as consumers feel unsure or hesitant about the process. Perceived behavioural control helps to increase consumers' confidence to complete the purchase hence influencing the purchase intent. With more control, perceived behavioural control can also help consumers to feel more in control and capable of overcoming any obstacles, which can increase their likelihood of making a purchase.

Attitude was found to have a mediation effect on the relationships between subjective norm and purchase intention and between perceived behavioural control and purchase intention. With that, it means that subjective norm and perceived behavioural control also have a significant relationship with purchase intention through attitude towards online shopping. Despite our earlier finding that attitude has little impact on the purchase intention as online shopping was a necessary behaviour to adopt in the new normal lifestyle, attitude is found to have some effect on the relationships between

subjective norm and purchase intention and between perceived behavioural control and online purchase intention. Attitude towards online shopping is an important factor in the decision to make an online purchase because it reflects a consumer's overall evaluation of online shopping as a mode of purchasing goods and services. A positive attitude towards online shopping is likely to increase the likelihood of making an online purchase, while a negative attitude may decrease it.

Reasons why attitude towards online shopping is an important factor in mediating relationships between subjective norm and purchase intention, and between perceived behavioural control and purchasing intention are the likelihood that attitude influences the perception of risks and perceived benefits associated with making an online purchase, willingness to try new things and overall customer satisfaction when making an online purchase. Consumers' attitudes towards online shopping can shape their perceptions of the risks associated with making an online purchase. If consumers have a positive attitude towards online shopping, they may perceive it as a safe and reliable way to purchase goods and services. On the other hand, if consumers have a negative attitude, they may perceive it as risky and unreliable, which may deter them from making an online purchase. A positive attitude towards online shopping can also shape consumers' perceptions of the benefits of making an online purchase. Consumers with a positive attitude may see online shopping as convenient, easy, and efficient, while those with a negative attitude may perceive it as inconvenient, and with a lot of difficulty and hassle. Consumers who have a positive attitude are likely to have the willingness to try new things. They may be more willing to try new products or services offered online, while those with a negative attitude may be more hesitant to do so. A positive attitude towards online shopping can also influence consumers' overall satisfaction with the online shopping experience. Consumers with a positive attitude may be more likely to have a positive shopping experience and therefore be more satisfied with their purchase.

6.2.3 The Relationships Between Flow, Attitude Towards Online Shopping and Purchase Intention

For a more comprehensive and relevant perspective of factors influencing online purchase intention, the researcher included the final construct to the research model; the Flow concept to determine the influence of consumer's immersive experience interacting with information systems. This is in line with the second research objective of this thesis, which is to examine the relationship between Flow, the immersive shopping experience towards attitude and online purchase intention. Csikszentmihalyi (1975) defined Flow as the complete feeling and sensation when totally engaged and absorbed in an activity. In the context of online shopping, Flow is defined as the "optimal" user experience leading to intrinsically motivated purchase behaviour, engagement, and loyalty (Mahnke et. al 2015).

In the current research model, it is posited that Flow has significant direct impact on attitude towards online shopping (Hypothesis 15), online purchase intention (Hypothesis 16) and there is positive relationship between Flow and purchase intention mediated by attitude towards online shopping (Hypothesis 17). The results of the path analysis in Table 25 prove that Flow is a significant determinant on attitude towards online shopping and purchase intention and Table 26 on the results of indirect effects show that attitude towards online shopping plays a significant mediating role on the relationship between Flow and purchase intention.

Findings from this research is also consistent with studies done by Hyun et al. (2021), Chen et al. (2018), Chang et al. (2016) and Hsu et al. (2012) where Flow is found to be a major determinant in motivating attitude towards online shopping and purchase intention. This includes earlier work by Obada (2013) and Korzaan (2003) who studied the psychological state of Flow in predicting online purchase intention. The current research outcome has confirmed the rationality of having Flow as an independent

construct in the current research model. Flow or immersive online shopping experience is found to significantly affect attitude towards online shopping and purchase intention, a testament to the point that Flow enhances the pleasure and enjoyment that leads to positive feelings about the overall shopping experience. When consumers are fully absorbed in the process, they are less likely to become overwhelmed by the amount of information they are processing that can lead to a more positive feeling towards the shopping experience. This explains why attitude towards online shopping was found to also play a significant mediating role, affecting the relationship between the Flow and purchase intention. Whilst the direct relationship between Flow and purchase intention in this study is found to be significant, any change to attitude would still affect the relationship between the two constructs.

6.3 The Moderating Effect of Past Purchase Experience

Through the testing of moderation effect, it is found that the past online purchase experience has no significant moderation effect on either relationship; between Flow and purchase intention (Hypothesis 18) and between attitude towards online shopping and purchase intention (Hypothesis 19). While past online purchase experience increases the familiarity and comfort to shop online (Fernandes et al., 2021), it does not affect the level of purchase intent, the level of confidence, and enjoyment to shop online nor affect the level of favourable or unfavourable feeling towards the act of online shopping. Mondol et al. (2021) has also found that even as a direct relationship, past online purchase experience does not have a positive and significant relationship with intention to purchase online. Separately, the lack of influence of past purchase experience on market response was also highlighted by Jin and Park (2006) where they found that customer satisfaction remains unscathed regardless of purchase experience.

This result is opposed to past studies in the pre-COVID-19 pandemic era that observed that past online shopping experience was the determinant of online shopping

intention (Zhu & Zhang, 2010) and that the main influencer of the level of customer satisfaction and repurchase intention (Lin and Lekhawipat 2014). Online purchase experience was positively related to the customer online purchase intention (Ling et al., 2010) and overall increase the propensity to purchase (Weisberg et al., 2011), and that online shopping experience was highly individualistic, contextual, and relied on individual's past experience (Kawaf & Tagg 2017; Akar & Nasir, 2015). Silva et al. (2018) explained that increased individual expertise of online buying also gradually increases the volume of purchase over time. These results were the reasons that led the researcher to include past online purchase experience construct in the research model but surprisingly the hypotheses were not supported.

The outcome that past online purchase experience does not play a significant moderating role between Flow and attitude in influencing online purchase intention was not exactly surprising. It can be explained that due to the recent disruption of global phenomenon of COVID-19 pandemic, the on and off movement controls, social distancing, and multiple lockdowns (Bhatti et al., 2020; Hasanat et al., 2020) forced consumers to move to technology lifestyle due to the fear of the virus, to adopt online shopping literally overnight. Though delivery time was not optimum, and supply was slow, people are still buying as there is no alternative. Regardless of prior shopping experience, online channels were the only way for people to meet their basic demands at the peak of the deadly pandemic (Baarsma & Groenewegen, 2021). Online shopping continues to be a major retail channel despite freedom of movements and COVID-19 rulings and guidelines as countries are in an endemic phase ("COVID-19: Malaysia" 2022).

Other plausible reasons on the whole why past purchase experience is not a major influence in moderating the relationships between Flow and purchase intention, and between attitude and purchase intention are increased availability of information,

convenience, increased confidence, and a high competition between the online retailers. With the internet, consumers have access to a wealth of information about products and services. There are readily available product or services reviews, price comparisons and view of product images and videos of the products before they consider purchasing. The access to abundance of information means that consumers can make well-informed purchase decisions even if they have never purchased from a particular retailer before. Online shopping provides more convenience than traditional brick-and-mortar stores. Consumers' shopping experience can start from the comfort of their own homes or wherever they are, at any time of day, without having to travel to a physical store. This convenience factor may make past shopping experience less important as consumers are usually not invested to build any relationship with a particular retailer. Consumers today also have become more comfortable with online shopping and likely to have gained confidence in the security and reliability of online retailers. This new level of confidence may make past shopping experience less important since consumers are now more likely to trust new retailers that they have never shopped with before. Lastly, the online retail space is highly competitive with many retailers fighting for consumers' attention and market share. This high competition benefits the consumers as it means that consumers now have a wide range of options to choose from and may be more likely to try new retailers rather than sticking with ones they have used in the past. All these reasons explain why past purchase experience does not play a significant role in driving online purchase intention in today's environment.

6.4 COVID-19 Pandemic Effect on Well-Established Behavioural Theories

The COVID-19 pandemic has forced everyone to change the way they live, resulting in the way people work, shop, learn and play differently (Yan, 2020). Brick-and-mortar stores were crippled and many closed doors due to movement controls and

health fears. Consumers everywhere had to adapt to new ways of shopping and buying. Products, services, and brands were reviewed in a different light. In a manner faster than any of us could have imagined, the retail landscape was reshaped in a few short weeks (Accenture, 2020). The pandemic era also invited an influx of studies on the effect of COVID-19 pandemic has on consumers' online purchase behaviour; Li et al., (2023), AbdelAziz et al., (2023), Gordon-Wilson (2022), Laparojkit & Suttipun (2022), Ellison et al. (2021), Aryani et al. (2021), Baarsma & Groenewegen (2021), Erjavec and Manfreda (2021), Moon et al. (2021), Prasetyo et al. (2021), Sheth (2020), Grashuis et al. (2020), R.Y. Kim (2020) and Koch et al. (2020).

At the onset of this research, examining the impact of COVID-19 pandemic on consumer online purchase behaviour was not the intended research objective. However, as the fieldwork for this study was conducted from July to September 2021, during the COVID-19 pandemic period, it created the opportunity to test any disruptions in consumer online behaviour to the existing theoretical models. Hence, the fourth objective for this research is to determine if the online purchase behaviour amidst COVID-19 pandemic defies the hypotheses ingrained in the well-established behavioural theories.

New consumer attitudes, behaviours and shopping habits emerged during the pandemic in the process of learning how to cope with the new technology advances, restricted movements, health fears, remote education and hybrid working arrangements. It is believed that many of these new attitudes and behaviour will remain post-pandemic (Accenture, 2020). Sheth (2020) identified eight immediate impacts of COVID-19 pandemic on consumer behaviour namely, hoarding, improvisation of existing habits to adapt to the new ways of living, pent-up demand, adoption of technology, instead of going to the stores, the stores come to home, blurring of work-life boundaries, reconnect with friends and family and lastly, discovery of talents with exploration with new skills.

Consumers were instantly becoming hoarders due to the uncertainty of the future. They started accumulating daily essentials like toilet paper, disinfectant, cleaning products for daily consumption resulting in shortages of these products at the retail stores. Consumers were quickly to learn to improvise and adapt ways of living with the pandemic and made changes to the ways that they work, play and learn. Consumers were also experiencing pent-up demand with the uncertainty of the future. They had the tendency to postpone purchase and consumption of non-essential products or services such as high-end durable goods such as cars, properties, music concerts, sports, and restaurants. The pent-up demand could be released in the future when the pandemic is over and in a distant past. Adoption of digital technology was not an option; it was a necessity. Besides online shopping for essentials, Zoom or Microsoft Teams video services for work and at virtual schools. In countries that experience complete lockdown, the online stores had to infiltrate the homes. Instead of customers going to the stores, the stores were coming into the homes. Workspace and personal space boundaries were blurred. Many of the activities that were usually done in isolation like shopping, working, learning and socializing were all done within the constraints of the home space. The COVID-19 pandemic had also encouraged closer ties and virtual get-together with friends and families, checking in on each other to exchange greetings and experiences. Lastly, COVID-19 has also created the opportunity to discover talents such as cooking, playing musical instruments and other new hobbies. With more time at home, consumers had tested their inner talents to perfect the recipes, learn new musical instruments, create creative content as bloggers including creative online shopping, start small innovative projects with commercial possibilities with many opportunities to trial and practice (Sheth, 2020).

The fourth objective of this research is to study whether the online purchase behaviour during COVID-19 pandemic defies well-established behavioural theories is mostly addressed except for two anomalies. It is shown that the proposed research model

integrating constructs from multiple psychological angles; behavioural, attitude, and immersive experience has given a comprehensive perspective of the factors that would motivate online purchase intention. In line with the hypotheses of established theories like the Technology Acceptance Model, the Theory of Planned Behaviour and the Flow concept, key constructs like perceived usefulness, perceived ease of use, perceived behavioural control and Flow experience are found to have significant influence on purchase intention.

The anomaly in this case are the elements of subjective norm and attitude towards online shopping. These two constructs are found not to have significant influence on purchase intention. This means that during the pandemic, online purchase intention is not reliant on the acceptance or approval from people around the customers on whether making an online purchase is a good idea. It is also not influenced by the consumer's attitude, whether the consumer has a favourable or unfavourable perception towards the behaviour of online shopping. Under isolation and movement controls, online shopping fulfills the most basic needs to survive like avoiding crowds during the COVID-19 pandemic (Sharma & Jhamb, 2020). Adoption of online shopping and purchase were mainly driven by fears for health. The bigger the fear consumer has, the bigger the change in the shopping behaviour (Eger et al., 2021). Even the late adopters, who never used online shopping before, were persuaded to shop online as there was no alternative (R. Y. Kim, 2020b). The research results have somewhat pointed to the fact that consumers have shifted their mindset of online platforms as an alternative shopping channel to meet their occasional demands to one that online platform is the main channel to meet daily needs to survive. It can be assumed that consumers accepted online shopping despite the feeling of uncertainty still exists (Pham et al., 2020).

The insignificant influence of attitude towards online shopping and subjective norm on purchase intention has been discussed in detail in section 6.2.1 and section 6.2.2.

However, similar outcomes are not confined to the situation during the pandemic era, but they do defy the hypotheses outlined in the well-established behavioural theories. Post-pandemic, it is believed that many of the new consumers' behaviours and purchasing habits will remain (Accenture, 2020). The change in online shopping behaviour due to COVID-19 may not necessarily defy well-established theories like the Theory of Planned Behaviour, but it does highlight the need to update and adapt these theories to account for new contextual factors and changing consumer behaviours. The Theory of Planned Behaviour suggests that an individual's behaviour is determined by their intentions, which are in turn influenced by their attitudes, subjective norms, and perceived behavioural control. While the Theory of Planned Behaviour may still be applicable in the context of online shopping, the COVID-19 pandemic has introduced new contextual factors that may affect these underlying factors; for example, the pandemic has led to changes in consumer attitudes towards health and safety, which may influence their intentions to engage in online shopping. Similarly, subjective norms may have changed due to social distancing measures and reduced physical interactions, while perceived behavioural control may be influenced by factors such as delivery times and availability of products.

The Technology Acceptance Model suggests that an individual's intention to use a technology is determined by their perceived usefulness and perceived ease of use of that technology. In this present study, the Technology Acceptance Model is found to be applicable in the context of online shopping even during the COVID-19 pandemic. Forced movement controls may have influenced consumers' perception of the usefulness of online shopping. Similarly, the pandemic may have also made consumers more comfortable with using technology for shopping, thereby influencing their perception of the ease of use of online shopping platforms. Hence, it is safe to assume that the Technology Acceptance Model will continue to be a useful framework for understanding online shopping behaviour in the post-COVID-19 era.

Similarly, for the concept of Flow that suggests that an individual's behaviour is determined by their experience of being fully immersed and engaged in an activity, it is still found to be applicable in the context of online shopping during the COVID-19 pandemic. However, the pandemic may have introduced new factors that may affect the experience of Flow. With the concerns with health and safety during the pandemic, the level of immersion and engagement with online shopping may be affected. Similarly, the pandemic may have introduced new distractions and interruptions that may affect the Flow experience, such as interruptions from family members in the same remote workspace or the need to attend to other tasks.

In summary, whilst COVID-19 pandemic may have changed consumers' online behaviour, challenging some of the assumptions and predictions of well-established theories with variables like attitude towards online shopping and subjective norm, the three underlying theories, the Theory of Planned Behaviour, the Technology Acceptance model and the concept of Flow are still relevant and useful for understanding and predicting consumer behaviour in the context of online shopping. While COVID-19 may have introduced new contextual factors that may affect the influence of each variable to purchase intention, it is the objective of this study to update and adapt these theories to the changing consumer behaviours in today's environment.

For ease of reference, Table 6.1 offers a comprehensive overview of the key findings and their alignment with the objectives. It encapsulates the conclusions of this research, derived from the problem statement, gaps, objectives, questions to the underlying theories, variables, hypotheses, research outcome and brief interpretation of results.

Table 6.1

Overview of Key Findings and Alignment with Objectives

Problem Statements	Research Gaps	Research Objectives	Research Questions	Variables	Hypotheses	Outcome	Interpretation of Result
					H_1 Perceived ease of use positively influences perceived usefulness.	Supported	
					H_2 Perceived usefulness positively influences attitude towards online shopping.	Not supported	All hypotheses in the Technology Acceptance Model are supported in this study except for perceived usefulness not having a significant influence on attitude towards online shopping but attitude was still found to mediate the relationship between perceived usefulness and online purchase intention.
					H_3 Perceived usefulness positively influences online purchase intention.	Supported	
				Technology Acceptance Model: Perceived Ease of Use Perceived Usefulness Attitude Towards Online Shopping Online Purchase Intention	H_4 There is a positive relationship between perceived usefulness and purchase intention, mediated by attitude towards online shopping.	Supported	This means that any changes in attitude will ultimately affect the relationship between perceived usefulness and online purchase intention. If the shopper feels that shopping online is a good idea and enjoys the overall experience, it is likely that it will trigger purchase intent.
					H_5 Perceived ease of use positively influences attitude towards online shopping.	Supported	
					H_6 Perceived ease of use positively influences online purchase intention.	Supported	Attitude towards online shopping was found not to have a significant relationship with purchase intention.
		(1) To assess the influence of consumer behavioural factors i.e., perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, attitude and Flow that are affecting customers online purchase intention.	(1) What are the behavioural factors, i.e., perceived usefulness, perceived ease of use, subjective norm, perceived behavioural control, attitude and Flow that are influencing customers' online purchase intention?		H_7 There is a positive relationship between perceived ease of use and purchase intention, mediated by attitude towards online shopping.	Supported	Whether a consumer has a positive or less than positive attitude towards online shopping, it was a necessary behaviour to adopt in the new normal lifestyle.
					H_8 Attitude towards online shopping positively influences online purchase intention.	Not supported	
					H_9 Subjective norm positively influences attitude towards online shopping.	Supported	
	(1) Few attempts in a more robust approach, combining multiple aspects of behaviour.				H_{10} Subjective norm positively influences online purchase intention.	Not supported	
Low online store conversion (< 2%)	(2) No unified model in understanding influence of online purchase intention, to mitigate low conversion rate and high cart abandonment.			**Theory of Planned Behaviour**: Subjective Norm Perceived Behavioural Control Attitude Towards Online Shopping Online Purchase Intention	H_{11} There is a positive relationship between subjective norm and purchase intention, mediated by attitude towards online shopping.	Supported	All hypotheses in the Theory of Planned Behaviour are supported except for the poor performance of subjective norm as a strong determinant of purchase intention.
High cart abandonment rate (70%)					H_{12} Perceived behavioural control positively influences attitude towards online shopping.	Supported	Herd behaviour rather than social influence drove behaviour during the pandemix. Other reasons include increased anonymity hence feeling less influences by the opinion of others, making purchase decisions based on their own preferences and needs.
	(3) Extremely challenging to keep up with fast-changing landscape and technology advancement for online shopping.				H_{13} Perceived behavioural control positively influences online purchase intention.	Supported	
					H_{14} There is a positive relationship between perceived behavioural control and purchase intention, mediated by attitude towards online shopping.	Supported	
					H_{15} Flow positively influences attitude towards online shopping.	Supported	
		(2) To examine the relationships among Flow, immersive shopping experience, attitude, and purchase intention.	(2) Is there a significant relationship between Flow, immersive shopping experience towards attitude and purchase intention?	**Concept of Flow**: Flow Attitude Towards Online Shopping Online Purchase Intention	H_{16} Flow positively influences online purchase intention.	Supported	Flow is a significant determinant on attitude towards online shopping and purchase intention. Attitude towards online shopping plays a significant mediating role on the relationship between Flow and purchase intention.
					H_{17} There is a positive relationship between Flow and purchase intention, mediated by attitude towards online shopping.	Supported	
		(3) To determine whether past online purchase experience moderates the relationships between attitude and purchase intention, and between Flow and purchase intention.	(3) Does past online purchase experience moderates the relationships between attitude and purchase intention, and between Flow and purchase intention?	Past purchase Experience (Moderator) Flow Attitude Towards Online Shopping Online Purchase Intention	H_{18} There is a positive relationship between Flow and purchase intention, moderated by past purchase experience.	Not supported	Past shopping experience is less important since consumers are now more likely to trust new retailers that they have never shopped with before. Online retail space is highly competitive that benefits the consumers with wide range of options, they are more likely to try new retailers rather than sticking with ones they have used in the past.
					H_{19} There is a positive relationship between attitude towards online shopping and purchase intention, moderated by past purchase experience	Not supported	
		(4) To study whether the online purchase behaviour during COVID-19 pandemic defies traditional well established theories.	(4) Does the online purchase behaviour during COVID-19 pandemic challenges the hypotheses in well-established behavioural theories?	N/A	N/A	Determined by the influences of consumer behaviour in ways that were not predicted nor explained by the behavioural theories. Namely, the lack of significant influence of subjective norm and attitude on online purchase intention.	

6.5 Theoretical Contributions

A theoretical contribution of this thesis would mean an advancement or refinement of existing theories or the development of new theoretical frameworks that can be used to explain or understand a phenomenon. The theoretical contribution of this thesis is important because it helps to expand the body of knowledge in the field of consumer behaviour in online shopping, building on existing theories and providing direction for future research. It can also help researchers to refine their research questions, design studies, and interpret their findings in a meaningful way.

The objective of this research is to better understand online customer behaviour, how to lead customers to develop purchase intent as the trigger to engage in an online transaction, the act of purchase. The first and most evident theoretical contribution is in the integrated research model that combines the most crucial factors that affect online purchase intention from the attitudinal, behavioural, and experiential perspectives, from the perspective of technology acceptance, attitude towards online shopping to the experience from interacting with information systems. It integrates three well-established theories; the Technology Acceptance Model (TAM) (Davis, 1989), the Theory of Planned Behaviour (TPB) (Ajzen, 1991; Fishbein & Ajzen, 1975) and the concept of Flow experience (Csikszentmihalyi, 1975). The empirical findings provide a more robust and meaningful contribution to existing literature in understanding online consumers in explaining how attitude, intention and experience can influence intent and eventually an action or behaviour. To the best of the researcher's knowledge, there are few existing literature that has considered the combination of these three theories and perspectives to study consumers' behaviour in the context of online shopping or pertaining to any other situation. Most studies to date had either a single theory (La Barbera & Ajzen, 2021; Barta et al., 2021; Dangi et al., 2020; Chen et al., 2020, Moon et al., 2021, Prasetyo et al., 2021; Vahdat et al., 2021) or combination of two theories (Hyun et al., 2021; Hyun et al., 2021).

There is currently no consensus on a unified approach in the study of online shopping behaviour.

The second theoretical contribution is keeping established behavioural theories in driving online purchase intention up-to-date and relevant in the present day. The research outcome helps to navigate better marketing strategies to trigger the conversion of potential customers to purchasing customers, build retention and loyalty (Zendehdel et al., 2015). The current study provides an explanation on how key constructs in existing theories influence the goal of online shopping purchase intent. It helps to capture factors influencing purchase decisions throughout the heterogenous path to purchase, starting with the drivers of intention to purchase.

The third theoretical contribution is the inclusion of the Flow concept in the research model, providing a more vigorous examination of online consumer behaviour from psychology, experiential perspective. Past research around the area of online consumer behaviour usually relied on theories like the Technology Acceptance Model and Theory of Planned behaviour (Cheung et al., 2005) but rarely include the Flow construct. It is especially crucial in the current time as individuals today have the natural skills to navigate in the online environment to work, learn and play. They could easily immerse themselves in the activity that leads to an unexpected course of actions (Ozkara et al., 2017). Flow in past research is generally accepted as a positive experience and a cognitive situation with positive outcome (Siekpe 2005, Novak et al. 2003, Koufaris 2002). Expectedly, the element of Flow experience was found to have a positive direct effect on both the attitude towards online shopping and purchase intention.

The research fieldwork was done from July to September 2021, the fourth and final theoretical contribution is the assessment of any changes to the determinants of online purchase intent during the COVID19 pandemic that challenges the well-established theoretical models. Just a few years ago, online shopping was a novelty

concept, increasingly growing, making its way into our lives, but the COVID-19 pandemic resulted in consumer lockdowns in their homes and movement controls accelerated the transformation of e-commerce landscape, literally overnight across all business levels and industries, during and even post pandemic time. The pandemic forced people to predominantly rely on online channels to shop, learn, work, and entertain (Yan, 2020). As such, it was not surprising that the result of the current study shed a new light on some hypotheses established in the Technology Acceptance Model and the Theory of Planned Behaviour that are no longer supported in today's context.

As consumers are getting more comfortable with the use of the internet and interactive experiences online to meet daily demands, they expect more authentic, predictive, and customized digital interactions in all their online engagements. Constructs like perceived usefulness in the Technology Acceptance Model no longer affect individual's beliefs which form attitudes towards online shopping. Attitude is also found to have insignificant influence on purchase intention as online shopping was the only option for basic needs during the peak of pandemic. Adopting online shopping does not rely on whether consumers are feeling favourable towards the digital channel or otherwise. On the other hand, while attitude does not have a direct significant relationship with purchase intention, it was found to play a significant mediating role in the relationships between all the key constructs in the research model and purchase intention. In the Theory of Planned Behaviour, the element of social pressures in the subjective norm no longer influences online purchase intention now that online shopping is becoming more of a utilitarian activity.

Past studies have vouched that Flow and past purchase experience provide a positive outcome to the goal of making a purchase. Past purchase experience increases consumer's propensity to make an online transaction (Smith & Sivakumar, 2004; Suki, 2013). The results in the present study show the change of times where online shopping

is a necessary evil, the past purchase experience has little influence in driving purchase intent. Considering the change that consumers had to endure and urgently adapt to embrace digital technology since the start of COVID-19 pandemic and now moving into the endemic phase, the results from this study add a much better conversation to the existing body of knowledge, not only for its integrated theoretical framework standpoint but also its relevance to predict online consumer behaviour in current environment.

6.6 Practical Contributions

Practical contributions of this thesis refer to the application of the research findings in the real world that can be used to address a problem or improve a situation. The contribution may be in the form of new knowledge, a new technique or approach, a new product or service, or a new perspective on an existing problem. The practical contribution of this thesis is important because it demonstrates the relevance, significance, and value of the research beyond academia and how it can have a tangible impact on the market and society on a whole.

For government and policymakers who are seeking to exponentially grow their digital economy, specifically mass adoption of e-commerce and for companies seeking to accelerate their digital sales contribution. Policymakers can gain insights from this research by providing the right incentives to maximise the growth of e-commerce as the main retail channel (Dangi et al., 2020), overtaking offline stores. Government can incentivise business owners who invest in e-commerce technology to improve customer experience, focus effort on growing overall sales contribution from online channels, implement online store specific events or activities and increase marketing support on digital platforms. Smaller businesses that are slow or lacked the capabilities to establish their business online could be supported with funding and consultation from industry experts bearing the learnings from this research, focussing on the issues of online

conversions and cart abandonment by enhancing user interface and user experience to drive sales, build customer base, engagements and loyalty.

The research model with combined behavioural theories for this study can serve as a cue to e-commerce business owners to tackle the online sales channel with an extremely focussed customer-oriented approach, to win online customers. They will need to understand what the customers are responding to and develop customized and personalized marketing strategies addressing the individual needs. The days of one-size-fits-all market segments approach are over (Accenture, 2020). Companies need to adapt their business models according to the changes in consumer behaviour, anticipating trends and investing in smarter technologies and resources to successfully meet customer needs now and in the future (Koch et al., 2020; Dinesh & MuniRaju, 2021). In 1997, Steve Jobs, the founder of Apple Inc. said, "You've got to start with the customer experience and work backward to the technology. You can't start with the technology then try to figure out where to sell it." (Fersht, 2020). Technology is nothing if it does not provide the best possible customer experience. According to Barta et al. (2021), there is evidence that customers may value the shopping experience at the online store more than the tangible value of the actual product and services that it offers. Detailed knowledge of the factors that drive customers' online purchase intention from this research could help to ensure that the success of e-commerce stores continues in the long run.

Both perceived usefulness and perceived ease of use are proved to positively influence online purchase intention. Online business owners should ensure users perceive their website and the online shopping process to be valuable, informative, and simple to use. The e-commerce platform on both website and mobile should offer detailed products and services listing, transparent pricing, have an intuitive interface and navigation, and easy checkout process. Customers should be given easy access to online customer support, offering artificial intelligence (AI) chats, live chats with customer service

personnel, helpful guides, and frequently asked questions. Where applicable, customer support channel options can include phone and face-to-face customer support to assist users in their online shopping journey. To address low conversion rates, business owners can work on improving users' attitude that has proven to have significant positive influence on online purchase intention. This can involve enhancing overall user experience, from easy search for information on the products or services, wider range and selections, attractive deals, interaction, and better engagement, all points to the understanding of what the customer needs and preferences throughout the buying journey. Practitioners must be able to provide a seamless, fuss-free and yet immersive user experience and user interface throughout the e-commerce site or app.

In this study, all respondents are already established online shoppers. Before, it was assumed that online consumers may not be informed sufficiently and relied on possible advice and guidance from friends and family. According to the Theory of Planned Behaviour, the customer was not thought to be the sole purchase decision maker but a decision of the entire group or household. Following the findings of this study, the subjective norm construct was found to have insignificant influence on consumers' purchase intent. This could be due to the effect of experiencing COVID-19 pandemic time, online shopping is now a widespread utilitarian activity, online business owners must accept that social normative influence or social pressures is no longer of high importance to create online purchase intention nor purchase decision. Understanding the decision to purchase or otherwise relies mainly on individuals. Practitioners should consider shifting the emphasis on the strategy of communicating from one-to-many to one-to-one with individual engagement and customisation for the customers. For this, practitioners can consider the use of customers' online behavioural data and mobility data to develop predictive models to understand customer needs, as individuals. This will provide relevant one-to-one conversations with individual customers that is contextual

and consistent. It lets the customer know that the e-store or the brand values their individual patronage, not just from the perspective of closing a sale but also serving their interests and solving their problems for a continuous relationship.

The Theory of Planned Behaviour posits that usage behaviour depends on both intention and ability to make that purchase. The outcome of this research has proven that the ability to purchase in perceived behavioural control will improve the prediction of purchase intention. The construct refers to skills, opportunities and resources required to perform the behaviour which also relates to users' confidence in their ability to complete the purchase process successfully. This means, despite infiltration of online shopping, there are still other related obstacles to overcome by consumers before getting to the purchase decision. Simplifying the shopping process, providing clear instructions, and offering assistance can enhance users' perceived control and reduce cart abandonment. With customer behavioural data analytics and social listening tools, marketers will not only gain insights into customers' interests, wants, and needs but also perceived purchase barriers and challenges that are out of the control of the customer. Companies should try to ease the online selection and transaction process, provide access to a wider and relevant range of products and services catering to their tastes and needs and, at a palatable price point, expected service level and speed that they are looking for. This will make customers feel that making an online purchase is within their individual boundaries of control. The higher perceived behavioural control, the higher the purchase intent.

The state of Flow is proven to be another significant factor that positively influences online purchase intention. To reduce cart abandonment, it is necessary to build a web or app framework to create a seamless and engaging user experience, from browsing, to selecting the options and performing the purchase transaction. There should be minimal distractions, ensuring fast loading, clear and enticing product descriptions, images and usage demonstration. Implementation of progress tracker could be a good

feature as users in a state of Flow will be able to track their progress, indicating how many more steps are left to checkout, reducing both anxiety and the potential of cart abandonment. For this, online businesses can consider pursuing A/B Testing with multiple UI/UX to arrive at the optimum user experience by analysing current consumers' historical activities and preferences. Testing with different website designs and different journeys. This can be done by re-evaluating the existing level of interaction on different web pages, navigation path and enhancement of website usability to determine which combination delivers the best results.

Instantaneous loading, intuitive navigation, smooth transition and interactive design create a seamless and enjoyable UX, guiding the customer towards completing the desired action (Rano & Sungkur, 2019). With enhanced website experience, online retailers can further improve conversion rate by testing multiple promotional tactics, different display of information, strategic location of the call for action and checkout buttons, etc. Interactive design elements such as dynamic visuals and personalised recommendations have been proven to capture users' attention and encourage customers to explore and stay on the website much longer creating meaningful engagement. They are more willing to stay on the website longer and have a higher chance to improve conversion rate, overall website performance and sales (Rano & Sungkur, 2019; Saleem et al., 2019). To mitigate cart abandonment, online retailers can consider analysing data related to abandoned carts with targeted follow-up emails, retargeting ads, additional short validity discount or rewards for completing the transaction and overall improvements to checkout process to reduce incidence of cart abandonment (Saleem et al., 2019).

Moreover, Flow is cultivated by matching the usage challenge to the user's skill level. The online business owner must ensure that the user interface and the steps involved in completing the purchase must match the users' familiarity with online shopping. With

fluency and confidence to use the site, it will develop a positive customer shopping experience. The addictive experience can also be found by engaging customers in a two-way conversation by providing speedy response to customers' questions through virtual customer service and allowing customers to engage with the community of customers to share their experience of the products or services that they have purchased. With the right algorithm and machine learning capabilities, intelligent e-commerce sites also personalised the experience for individual shoppers by only showing them what they have been searching for, according to their tastes and interests. Marketers and online business owners can subscribe to web analytics service providers or platforms to ensure on-going enhancements of positive experience, creating Flow when using the site. These tools help to not only estimate traffic to the different web pages, but also visibility to traffic sources, top search keywords, how much time customers spend on each page, where customers drop off and leave the site, and analysis of competitors site activities, providing learnings on what worked and what did not work to improve future performance.

With the understanding of the factors that can significantly and positively influence online purchase intent, the effort to improve online conversion rate, reducing cart abandonment could start from the time they show any form of interest in the product category, clicking on the company's digital ads, to being a new customer, a returning customer to a loyalist. New engagement opportunities like virtual reality or augmented reality technologies can enhance personalised and interactive virtual shopping experiences (R. Y. Kim, 2020b). Online marketers can consider personalised messages and customised offers based on their previous purchase or based on the likes and interests of the customer segment who had made a similar purchase and treating all customers like VIP members even after only making one purchase. Via more personalised channels like in-app, e-mail, and instant messaging platforms, schedule the engagements with customers to ensure that they constantly engaged with value-added information,

innovation, latest news of the product category or even social proof to make customer feels like part of a community leading to the next to purchase cycle where tactical offers can be heightened to encourage a return to the e-store. Bigger online business owners can subscribe to the many customer data management platforms and customer engagement platforms to centralised multiple interactions with individual customers in the digital space, not limiting to the e-commerce site but also include social media platforms, email and in-app marketing, web chat and customer relationship management capabilities. High quality one-to-one customer engagements as such build long term relationships, drive repeat purchases, increase basket size of purchase, loyalty and potentially increase the customer's overall lifetime value with the business.

In the current study, it is also hypothesised that past online purchase experience plays a moderating role that could decrease or increase the effect of attitude towards online shopping and Flow on the purchase intention but the result shows that the moderating effect on both relationships are insignificant. It signifies a shift in focus for business, highlights the importance of adapting strategies to meet changing consumer behaviours and preferences while exploring alternative factors that influence purchase decisions. E-commerce business owners may consider allocating more resources towards attracting new customers while maintaining satisfactory service for existing ones. To increase online conversion rate and reduce cart abandonment, companies could focus on providing an easy and seamless user experience, an enjoyable and engaging purchase journey and personalised experience to enhance the relationship between attitude and Flow on purchase intention. Familiarity and ease in accessing the products and services alone are not effective.

6.7 Closing the Gaps

What differentiates other studies in the field is the integration of the three seminal theories, the Theory of Planned Behaviour, the Technology Acceptance Model and the concept of Flow. The integration of these models involved examining how the constructs from the Theory of Planned Behaviour; subjective norms, perceived behavioural control and attitudes, from Technology Acceptance Model; perceived ease of use and perceived usefulness and Flow; flow experience, interact and influence each other. For example, it is hypothesized and proven in this research that perceived ease of use and Flow are significant positive influences on attitude towards online shopping which in turn lead to a higher likelihood of purchase intention. The integrated model also allows the researcher to evaluate how perceived usefulness and perceived ease of use could directly influence Flow experience if required. In short, the integrated model can offer a comprehensive understanding of user behaviour in the context of adoption and usage leading to improving user engagement in addressing the research problems of low conversion rate and high cart abandonment.

The current research model also addresses the research gaps outlined in Chapter 1 are the lack of robust approach to online behavioural studies that combine multiple aspects of behaviour, no unified model to understand the influences of online shopping behaviour, even less so influences specifically of online purchase intention. Lastly, the need to constantly advance and keep online behavioural studies up to date in a fast-evolving environment and online retail landscape.

The three underlying theories that this study is based on, namely the Theory of Planned Behaviour, the Technology Acceptance Model, and the concept of Flow, collectively offer a robust and multifaceted research approach encompassing psychological, behavioural and experiential perspectives of online behaviour. Research based on any single theory has prompted some criticism (Sharif & Naghavi, 2021). The

Theory of Planned Behaviour provides insights into cognitive and attitudinal factors affecting purchase intention, Technology Acceptance Model focuses on the perceived usefulness and perceived ease of use of e-commerce sites and the Flow conception contributes to the emotional and experiential dimensions of online shopping. Combining these theories allows the researcher to develop a more comprehensive research framework, to ensure a more holistic understanding of online consumer behaviour.

The lack of a unified research model on online consumer behaviour (Bahl & Kesharwani, 2018) has been a challenge; different studies emphasizing on different factors, leading to fragmented understanding of the topic. Combining the Theory of Planned Behaviour, Technology Acceptance Model and Flow concept provides a cohesive model that blends various aspects of online shopping behaviour. The Theory of Planned Behaviour addresses attitudes and intentions, the Technology Acceptance Model addresses technological aspects, and the Flow concept encapsulates the experiential dimension. The unified approach enables the researcher to consider the multi aspects of online shopping behaviour simultaneously.

The third research gap that this research hopes to fill is about the advancement of online consumer behavioural studies as it continuously evolves due to changes in technology, consumer preferences and overall market dynamics. This research keeps the field of study up to date and maintains relevance and applicability. Combination of the three theories ensures that research in online behavioural studies is kept updated and refined to reflect changes in consumer behaviour and technology advancement. Researchers can apply these theories to examine emerging trends and new technologies like mobile commerce, virtual reality (VR) shopping or impact of social media on online purchase intention. This will enhance the longevity and practicality of the research findings.

In summary, the integration of the three theories offers a comprehensive approach that bridges critical gaps in the current landscape of research on online consumer behaviour and purchase intention. It effectively addresses issues of a fragmented and less robust research approach, the absence of a unified model and the need to stay current in a fast-evolving study area such as online behaviour. It hopes to also pave the way for more comprehensive and relevant insights into the complex industry of e-commerce and digital shopping.

6.8 Limitations of the Study

Any good research should include the ability to recognise its limitations. Acknowledging research limitations is important because it helps to establish credibility by being transparent about the potential gaps and weaknesses of the study. It helps to provide a more accurate interpretation of the results. For example, the findings from this study have contributed further evidence to the knowledge of what are the factors influencing online customers to make an online purchase from the attitudinal, behavioural, and experiential perspectives. However, there are several limitations that need to be addressed.

The first limitation lies in the generalisability of the findings in terms of the sample. The data were collected mainly from Kuala Lumpur and Petaling Jaya territories, Malaysia's most populated and busiest cities. Hence the findings of this study have a limited generalisability to the overall population of online shoppers in these areas only. It does not represent the whole of Malaysia, nor other territories outside of Malaysia. Due to time and budget limitations, the sample in this study was collected based on a non-probability sampling method, with the possibility that it may not fully represent the general online shoppers. However, to compensate, this research garnered a relatively large sample size (n = 601) to overcome the problem.

The second limitation could be the risk of biasness that is caused by the disadvantage of the data collection method specifically respondents who filled the survey via online. Majority (83%) of the survey questionnaires were completed via online. There could be misinterpretation of the survey questions as they were filled out by the respondents without any guidance. Respondents could not ask researchers for immediate assistance or clarification when they face difficulty in understanding the questionnaire. This means, the data was self-reported as opposed to objectively measured. The researcher will not know how accurately the responses are captured to reflect actual behaviour. Perception and reality are not the same, there is a possibility that the responses do not reflect the actual thoughts, behaviour, and actions of the respondents.

This study collected general responses from respondents without considering their motives to shop, their past online purchasing activities, and experiences, nor specifying any particular e-commerce website. This gives rise to the third limitation of this study. Hedonic and utilitarian motives to shop online affects customers' preference towards purchase intention and certain online retailers (Overby & Lee, 2006). Without specifying the different nature of the purchase, for example the must-have weekly groceries and paying utility bills, as opposed to buying an expensive piece of collectors' item for hobby, this research is unable to characterize individual shoppers according to their dominant shopping behaviour and objectives.

The fourth limitation of this study is due to its cross-sectional research approach where data were collected in a specific space of time and using surveys rather than in an experiment setting. It may limit the ability to make causal inferences as the sequence of relationship as the data was collected within a limited timeframe. There is no follow through if a positive effect on purchase intention is converted into an actual purchase made. The current study currently assumes that the intention will inevitably follow by action or behaviour.

The final limitation relates to the constructs within the research model. The current study has limited antecedents to influence online consumer purchase intent. It is confined to the latent constructs of attitude towards online shopping, Flow experience and purchase intention. While perceived ease of use, perceived usefulness, subjective norm, perceived behavioural control, attitude towards online shopping and Flow experience each reveals a different aspect of the purchase intention, there are more variables that could be explored. Specifically for the Flow construct, this study only examined the overall feeling of Flow experience. One could argue that Flow is a complex multi-dimensional construct (Sharif & Naghavi, 2021) that includes perceived control, skills or capabilities, enjoyment, concentration, and actions (Hyun et al., 2021). Customer-focused variables like perceived risk, trust and individual shopping orientation could also play a critical role to influence online purchase intention beyond attitude and Flow experience.

6.9 Direction for Future Research

Future research in a research paper is an important aspect to the advancement of the knowledge in a particular field and to fill up the knowledge gaps as research is a continuous process as no one study can answer all questions and knowledge of a particular field. Direction for future research can help to identify areas for further research, advancing knowledge or hypotheses that arise from the current study. Suggestions for future research also helps to avoid duplication and create a broader impact on the body of knowledge.

Several recommendations for future research can be suggested reflecting the limitations stated in the previous section. To overcome the limited generalisability of the findings, future studies can be taken to other cities and territories. By applying the research model in a different environment than the present location, it would potentially confirm its robustness and provide more evidence of generalisability of the research

results, offering more valuable and practical insights for online marketers and business owners. For the limitation in relation to misinterpretation of questionnaires and to ensure that the data collected are objective and conclusive, future research should include additional observations and interviews. Mixed methods research can be considered, combining both quantitative and qualitative methods. Mixed methods research provides deeper behavioural insights that cannot be found by qualitative nor quantitative methods alone as it combines deductive and inductive thinking (Sekaran & Bougie, 2016). Further research may also be conducted to investigate the different types of shopping orientations and examine the difference in attitude and intention towards online shopping. Comparing results of the research model for utilitarian motives versus hedonic motives of online shopping and on different types of industries may offer a different result as well. This would allow marketers to design different marketing campaigns to better suit each consumer despite similarities in demographics.

Although this study was administered with a cross-sectional research approach, a longitudinal approach should be considered for future research. With market dynamics, technology and digital lifestyle continuously evolving, a longitudinal research design may be better suited and relevant to identify the shift in the role of attitudes and intent, and even psychological needs in impacting actions taken by online consumers in the future. It would be advantageous to see how online consumers' expectations change across different situations over time, to explain purchase and repurchase intention. It is not totally known in the post-COVID-19 pandemic era if online shopping behaviour will remain or change over time or do customers fully return to offline stores. As a result of COVID-19, offline retailers are making their in-store experience more extraordinary to give compelling reasons and experience to consumers who want visit in person (Yohn, 2020). If longitudinal approach is not feasible due to time and budget constraints, it is recommended to retest the current research model in the future to ascertain the robustness

and consistency of the variables in the interactions between attitude, behaviour, and psychology to shed more light on their relative importance to explain triggers of purchase intention.

For a deeper study on psychology factors especially on Flow experience and its effects on purchase intention, future studies could include more dimensions of Flow such as perceived control, skill, intrinsic interest, arousing curiosity, interactivity, shopping enjoyment and concentration. Psychology theories should include directly observed behaviour and controlled experiments. Future studies may include a lab experiment so that real-time information and respondents' behaviour can be more accurately collected. Detailed descriptions from additional attitudinal, behavioural, and experiential constructs could provide substantive information about a behaviour's determinants, at the level of robustness that can reveal the unique factors that motivate individuals to create intent, to engage in a behaviour or about the triggers for subsequent behaviour to follow a different course of action.

6.10 Conclusion

Enforced lockdowns and movement controls across the globe during the COVID-19 pandemic have been the catalyst for e-commerce exponential growth where consumers were forced to shift most offline retail activities to online (Yan, 2020). This study started amidst that shift and to be considered a stepping-stone on the road to better understanding online consumers from the attitudinal, behavioural, and experiential perspectives post COVID-19 pandemic era. To be in the lead in customer acquisition, online business retailers and marketers must understand customers' intrinsic motivations and values that would create purchase intent, that eventually lead to the action of making a purchase. Jeff Bezos, CEO of Amazon.com who is famous for his customer first slogans had said, "If you're competitor-focused, you have to wait until there is a competitor doing something.

Being customer-focused allows you to be more pioneering." (LaGesse, 2008). Being customer focused is the aim of this study; to win online customers by examining the crucial factors affecting their behaviour that leads to purchase intention.

To unlock the potential for higher conversions and reduced cart abandonment rate, combination of the Technology Acceptance Model (TAM) (Davis, 1989), the Theory of Planned Behaviour (TPB) (Ajzen, 1991; Fishbein & Ajzen, 1975) and the concept of Flow experience (Csikszentmihalyi, 1975), overlay with the enhancement of past purchase experience (Smith & Sivakumar, 2004; Suki, 2013), offers valuable insights into how to improve customers' perceptions and intentions and guides on engagement and immersive shopping experience. Online retail practitioners should prioritise the perceived usefulness, perception of ease of use and increasing perception of behavioural control and Flow experience in driving purchase intention. Element of subjective norm like social pressures is crucial in influencing positive attitude towards online shopping but insignificant impact on purchase intention. Attitude towards online shopping can affect the impact of all key constructs on purchase intention but attitude itself does not have a significant impact on purchase intention.

With these insights, industry practitioners can develop marketing strategies driving purchase intention, to win online customers. As time goes by, customers will come to expect more and more from online retailers. Investing in digital capabilities like data management and engagement platforms, predictive analytics and search, social interaction, multimedia content, personalization, gamification, and more, can create the notion of ease of use and overall improved and immersive shopping experience that physical stores could not offer (Yohn, 2020). To get ahead of the game, retailers must continue to be consumer focused, adapt and evolve with the ever-changing technology, market environment and most of all, consumers' needs into the next era of online shopping.

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Appendix 1: Survey Questionnaire

1 – Strongly Disagree 2 – Disagree 3 – Somewhat Disagree 4 – Neutral

5 – Somewhat Agree 6 – Agree 7 – Strongly Agree

Section 1:

Section 1: Attitude Towards Online Shopping Source: (Shih & Fang, 2004)	1	2	3	4	5	6	7
1. I think online shopping is a wise idea							
2. I think online shopping is a good idea							
3. I like online shopping							
Subjective Norm Source: (Bagozzi & Dholakia, 2002)	1	2	3	4	5	6	7
4. Most people who are important in my life think that I should make a purchase online.							
5. Most people who are important in my life whose opinion I would value would approve of me making a purchase online.							
Perceived Behavioural Control Source: (George, 2004)	1	2	3	4	5	6	7
6. I am capable of buying things online.							
7. Online shopping is entirely within my control.							
8. I have the resources, the knowledge and the ability to buy things online.							
Purchase Intention Source: (George, 2004) Source: (Yoo & Donthu, 2001)	1	2	3	4	5	6	7

9. I will definitely buy online in the near future.							
10. I intend to purchase online in the near future.							
11. It is likely that I will make an online purchase in the near future.							
12. I expect to make an online purchase in the near future.							
Section 2: Perceived Usefulness Source: (Davis, 1989)	1	2	3	4	5	6	7
13. Using online to shop would enable me to accomplish my tasks more quickly.							
14. Using online to shop would improve my overall performance in getting things done.							
15. Using online to shop increases my productivity.							
16. Using online to shop is effective to get things done.							
17. Using online to shop is easy.							
18. Using online to shop is useful.							
Perceived Ease of Use Source: (Davis, 1989)	1	2	3	4	5	6	7
19. Learning to shop online is easy for me.							
20. I would find it easy to shop online, to do what I want to do online.							

21. I would find interaction with the information system during online shopping is clear and understandable.							
22. I would find online shopping flexible to interact with.							
23. I would find it easy to be skilful at online shopping							
24. I would find shopping online is easy to do.							
Section 3: Flow Experience. Source: (Novak et al., 2000) – Q1-3, (Huang, 2003) – Q4-6	1	2	3	4	5	6	7
Explanation of Flow: The complete feeling and sensation when totally engaged and absorbed in an activity, ignoring the surrounding.							
25. I have experienced Flow while shopping online							
26. I experience Flow frequently when shopping online.							
27. Most of the time, when I shop online, I feel I am in Flow.							
28. When online shopping, I feel in control of my interaction with the web.							
29. When navigating my favourite online shopping sites, I am totally absorbed in what I am doing.							
30. Navigating my favourite online shopping sites, excited my curiosity and aroused my imagination.							

31. Using my favourite online shopping sites is interesting and fun to use.							
Section 4: Past Purchase Experience Adapted from: (Chen and Barnes, 2007)	1	2	3	4	5	6	7
32. Past online purchase experiences make me feel comfortable to shop online.							
33. Past online purchase experiences give me confidence to shop online in the future.							
34. Past online purchase experiences facilitate my purchase decision-making processes.							

Appendix 2: Detecting Missing Data

Variable	Valid	Missing
A1	601	0
A2	601	0
A3	601	0
SN1	601	0
SN2	601	0
PBC1	601	0
PBC2	601	0
PBC3	601	0
PI1	601	0
PI2	601	0
PI3	601	0
PI4	601	0
PU1	601	0
PU2	601	0
PU3	601	0
PU4	601	0
PU5	601	0
PU6	601	0
PEOU1	601	0
PEOU2	601	0
PEOU3	601	0
PEOU4	601	0
PEOU5	601	0
PEOU6	601	0
FE1	601	0
FE2	601	0
FE3	601	0
FE4	601	0
FE5	601	0
FE6	601	0
FE7	601	0
PPE1	601	0
PPE2	601	0
PPE3	601	0