



Master of Business Administration

Acceptance of Omnichannel Retailing for Optical Products in Hong Kong: Application of UTAUT2 and Channel Integration Quality on Purchase Intention

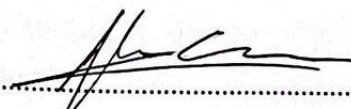
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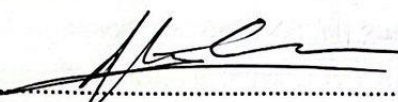
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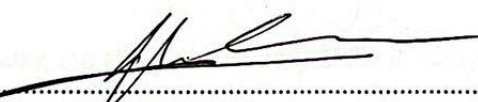
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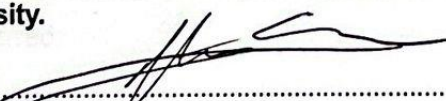
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I. Abstract

Hong Kong retailers have started to develop omnichannel retailing systems from few years ago, especially after the pandemic, which has huge impacted the retailing market. The sales number dropped in 2020 sharply, and rebounded in 2021. Few of the local optical shops also developed their own omnichannel retailing system, and providing their customers services across different channels. While omnichannel retailing system is becoming a trend in retailing industry, this study is to analysis the variables would affect consumers to adopt the new system and have significant relationship with purchase intention of optical products through omnichannel retailing in Hong Kong, to summarize recommendations to smaller scale local optical retailers on providing better omnichannel service for improving compactivities in the market.

With UTAUT2 and Channel Integration Quality as the reference to create the research framework for this study, the dependent variable, purchase intention, has been analysed that which aspects would influence and have significant relationship with it. After finalizing the questionnaire design, the online questionnaire link was shared out through social media platforms as it is one of the channels that local retailers usually used to approach customers.

For this study, total 215 valid responds have been collected by snowball sampling method, and the data has been analysed with SPSS software, including Descriptive Statistics, Reliability Analysis, Correlation Test and Regression Analysis, to see if the hypotheses are supported with the results or not. At the end, there are four variables that are significant positive related to purchase intention, which are Performance Expectancy, Habit, Transparency of Channel service and Content Consistency.

Recommendations to optical retailers for improving their omnichannel services have been stated accordingly. Research limitations and suggestions for further study also have been mentioned.

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1. Introduction

In this chapter, the research background, questions, objectives and gap will be discussed, including the definition of omnichannel retailing (omnichannel) and development of omnichannel in different industries in the world and Hong Kong.

1.1. Research Background

Omnichannel retailing has become a neutral business model for retailers in different industries, especially during COVID-19 affecting the retail business environment in the past few years.

In this section, the background of Hong Kong optical industry and the definition of omnichannel retailing would be described and explained.

1.1.1. Optical Industry in Hong Kong

Currently in the market, there are total more than 1000 optical shops and few hundreds of them are under chain store brands (both local and international brands) in Hong Kong (Wenweipo, 2023). However, most of them are running retailing system in traditional way in single channel – physical stores. During the pandemic, different social distancing measures had been tightened for few times, which make people stayed at home for a longer time. Traditional retail physical stores were affected by that situation, including optical industry, this has become an opportunity for the local retailers to consider about changing their business model and provide more flexible services to customers, to match with their new purchase habits and behaviours.

According to a research article from HKTDC in 2023, the trend of optical industry is developing online direct sales to customers in Hong Kong (Fu, 2023). Following different top

optical chain store brands, such as Optical 88, Owndays, Zoff, Jins etc., more local optical retailers have investigated the benefits and possibility of providing services through different channels, changes from the traditional way, as a response to COVID-19 crises (Fu, 2023).

However, online shopping channels could not replace the traditional offline service channel. After the social distancing measures were cancelled since the beginning of 2023 in Hong Kong, the sales of optical shops retails had grown for 53.2% in February (Hong Kong Business, 2023). This has proven that majority of the consumers still used to shop in physical stores for optical products in Hong Kong. Optical products were related to eye health service, especially for vision aid products, it needs to have professional optometrists to help consumer to take an eye examination, which would need special equipment to do so, couldn't be done at home by themselves.

From the below bar chart, it shows the retail sales of optical shops in Hong Kong has been dropped nearly one billion Hong Kong dollars from 2019 to 2020 due to pandemic, and rebounded from 2021:

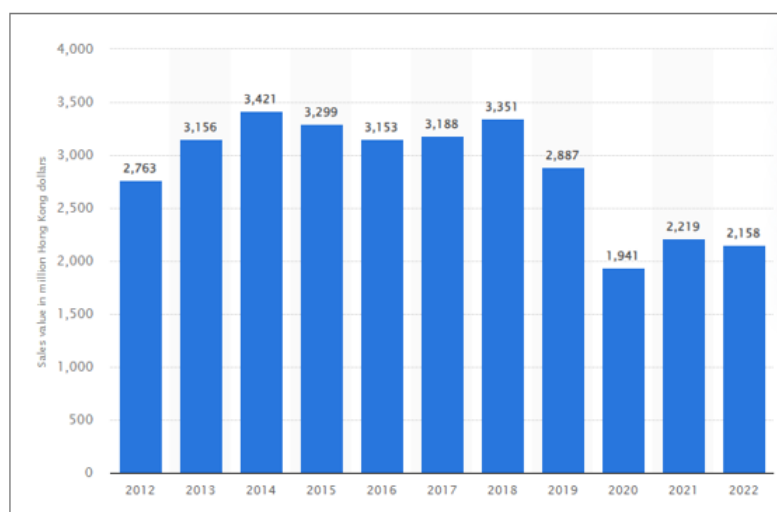


Figure 1.1: Value of retail sales of optical shops in Hong Kong from 2012 to 2022

Source: Statista (2023)

After government relaxed the social distancing measures in different stages, people start to shop at the physical stores again, both 2021 and 2022 sales have reached more than two billion Hong Kong Dollars (Ma, 2023). Part of the reasons would be the demands of myopia control products, such as eyeglasses and Ortho-K lenses, have been increased due to the school age children have long term learning from online classes during the pandemic period. According to the study research from CUHK, students increased their length of time on digital devices, from 2.5 hours to 7 hours per day, for lessons and entertainment (Chinese University of Hong Kong, 2021). After 2021, parents would take their children to optical shop for eye checking which lead to the sales growth.

Currently, the percentage of the sales of optical products that processed through online is around 12%, and estimated to increase to 15% in 2027 with annual growth rate of total revenue as 6.22% from 2023 to 2027 (Statista, 2023). Therefore, this is the trend of the optical industry in Hong Kong, to expand more sales platform online to response customer's new shopping behaviour. Nevertheless, the customers still need to visit the optical shop and seek for the professional eye examination services from optometrists. Therefore, the offline channel, physical shops, needs to remain for providing eye care services to customers, so omnichannel retailing would be a method to fulfill customers' needs and expectations.

1.1.2. Omnichannel vs Multichannel

People usually get confused between omnichannel and multichannel retailing system. Mainly because both of them allow retailers to provide services to customers through different channels, including offline stores and online platform.



Figure 1.2: Multichannel vs Omnichannel

Source: Moengage (2022)

For multichannel system, the goal is to encourage customers to approach retailers by their preferred channel (Moengage, 2022), which because they were all isolated. All the communications between customers and retailer for getting information and complete purchasing products could be done through different channels, such as store, website, social media etc.

For omnichannel system, the strategy would be to enhance the satisfaction of customers by allowing customers to have conversations under one platform across all channels. Also, with omnichannel strategy, retailers could have a better understanding of their target customers' behaviour, to deliver a consistent and suitable service to them (Patel, 2022).

Furthermore, omnichannel retail would mainly apply to retail based B2C for simply putting products and services up for sales on all available platforms, such as website, social media, app-based options, physical store etc.; for B2B companies, omnichannel environment allows

potential customer to request demos, ask for quotes and schedule consultations through different channels, such as phone call, e-mails, chatting applications physically visiting offices etc. (Fontanella, 2023).

1.1.3. Omnichannel application in world

In the past few years, online shopping has been more neutral due to pandemic situation, people often buy different products, such as groceries, clothes, books etc, through online to avoid physical contact. Retailers also explored and expanded their channels from offline to online as well. People feels further natural to get services from out of the traditional channels and moved to online platform. However, some customers would be considering about the size of products or the actual outlook, sometime they would like to try on the products as well, therefore the brick-and-mortar stores are still needed for retailing system (SCMP, 2019). Omnichannel is a great solution for retailers to fulfil customers' demands.

One of the most famous brandings in the world with success applying omnichannel services is Apple. With their iCloud system, customers would able to have sustain information and services with their preferences in between different Apple devices (Fontanella, 2023). Apple actually has developed and started the idea of “omnichannel system” way back when they launched their first Apple store in 2001, when they already have their online store in 1997 (Wong, 2022). Since 2020, Apple has announced that they are offering customers with new shopping ways, which allows customer to get different services in different channels. Deirdre O'Brien, Apple's senior vice president of Retail + People, said “We're offering new ways for our customers to get to know all of our products before they buy, so they can be sure to get the product that's right for them. Whether our customers choose to connect with us in person, by

phone, or online, our entire retail team is ready to deliver the world-class personalized service they've come to expect from Apple.” (Apple, 2020).

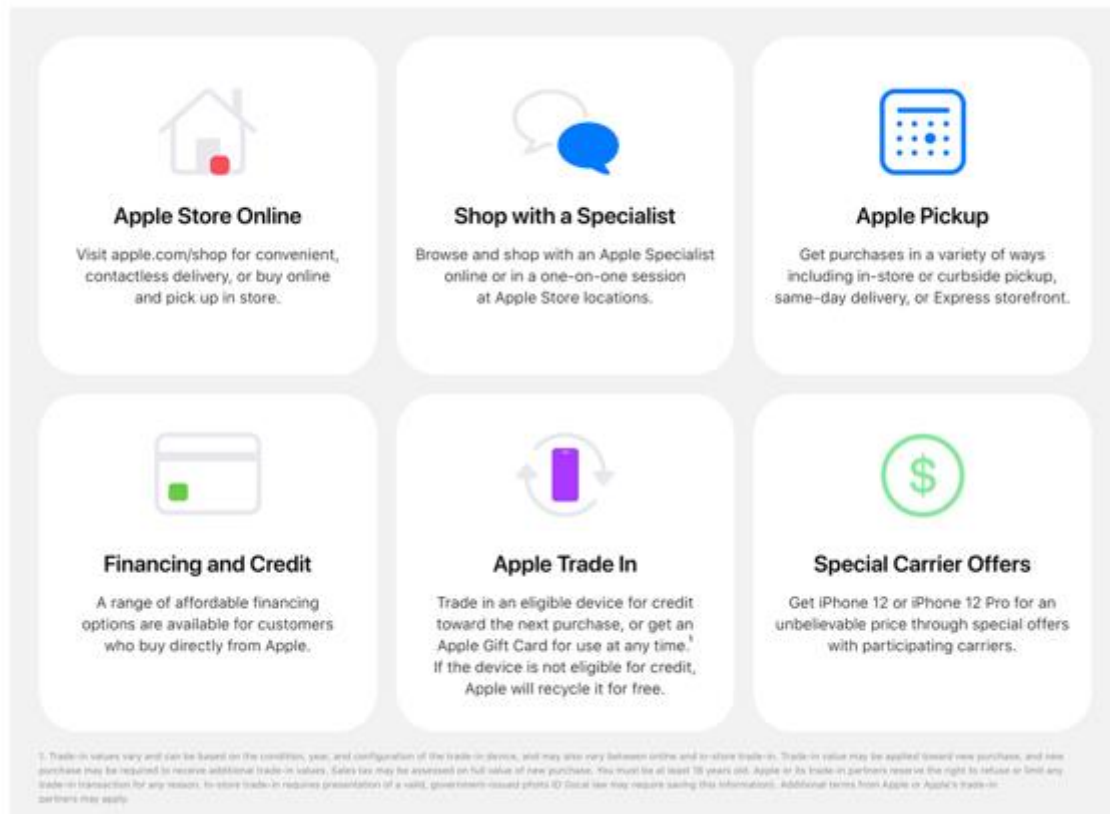


Figure 1.3: Services by Apple

Source: Apple (2023)

With the success of building the omnichannel system, Apple has kept on increasing customers' satisfaction of purchase and further developed and renewed their online retail services due to COVID-19. This platform allows customers to enjoy the professional services from Apple retail team at their own home, with customer support, delivery, education and personalization, such as one-on-one sign language support sessions, to enhance their shopping experience with Apple (Steeber, 2021).

To be succeed, retailers should keep on monitoring the latest developments of internet technology and social media since users' usage and habits of these channels are constantly shifting, for example, Threads, new platform of Instagram, just came out in July 2023 (Instagram, 2023) and has more than 10 million sign ups within 7 hours (Upadhyay, 2023). Threads definitely has become the hot topic and top tools for marketing strategy at this moment.

1.1.4. Omnichannel in Hong Kong

During the pandemic, Hong Kong government had released social distancing policies, such as encourage employers to allow employees to work from home, limitation of dining, which cause people seldom went out. To cope with such situation, traditional offline retailers have temporary closed the physical shops and developed online shopping business model to response the sudden change of purchase habit.

Since 2023, Hong Kong boarder has been reopened again, government announced cancelling all the social distancing policies, the business situation has resume normal gradually.

However, shopping on the website or through different channels on the internet has become natural to Hong Kong people. Retailers also would not stop running the channels since they cost little compare with running a physical store. With all the facts that Hong Kong people are comfortable in the online shopping and O2O environments, more retailers from different industries also started omnichannel service since then.

In general, Hong Kong SME retailers would be aggressive and very flexible on changes with new marketing strategies if they see the potentials of boosting sales (Chia, 2015), especially on internet which has limit cash costing.

In Hong Kong, some industries have started omnichannel retailing from few years ago. Pricerite, one of the largest home furnishing specialists in Hong Kong, is the first local home furnishing retailer to deliver omnichannel retailing services to customers (Ng, 2015). Pricerite aims to enhance their service quality by delivering consistent shopping experience to their customers across all channels that they have, including customer call centre, online & offline stores, website etc. They have divided the retailing system into three parts: Shopping, Buying and Fulfilment (Ng, 2015).

For shopping, Pricerite would show seamless and integrated product information across all channels. With the filtering tools on website, customers could search suitable items faster and easier.

For buying, Pricerite align and guarantee to provide the same promotion across all channels, allow customers to redeem and earn member points on both online and offline platform, which could make customers feel not much restriction and willing to renew the membership as a frequent return customer. Also, there is fast checkout for member and secured & flexible payment methods on the website. More important is, Pricerite allows customer to checkout their online basket at physical stores, this act achieves omnichannel retailing's seamless shopping experience to customers.

For fulfilment, Pricerite offers flexible delivery options for customers, they may choose door to door delivery, with express option for urgent needs, and store pick up, with more than 30 stores in Hong Kong. Moreover, customers could track their orders status and set delivery schedule for those items take longer time to arrange delivery.

In general, Hong Kong people has accepted the new shopping model in daily life, not only for the huge items as furniture, they have applied the same method to other life essential items

during the pandemic, this shopping habit has become very common. Due to the enforcement of social distancing measures, the white-collar workers must get used with “Work from Home” model, so many families have shifted to online for grocery shopping and ordering takeaway (LINK, 2020).

1.1.5. Omnichannel in optical market

As a retailer, providing services to make customers have high satisfaction shopping experience and responding to the market demands are the main goal. Understanding there are different consumers with different shopping habits and backgrounds, providing flexible services would be an easier way to expand the customer groups.

Optical 88, the top local optical chain store, has started online shopping platform and merge with the membership benefits, which could be used in both physical stores and e-shops (Optical 88 online store, 2023).



assembled the eyeglasses, customers will be able to get the product at the store directly (Optical 88 online store, 2023).

For purchasing contact lenses, once the customers have their first order of contact lenses through the offline store, with taking eye examination by optometrists, at least once a year, then their contact lenses prescription record will be shown under their member information. After that, customers may purchase the contact lenses online according to previous records, and direct deliver to home (Optical 88 online store, 2023).

On the other hand, there is an online eyewear brand called SmartBuyGlasses. This brand was started by selling eyeglasses and sunglasses on their website, there was no offline store at the beginning, every purchase processes would be done online. SmartBuyGlasses is famous of offering virtual try-on feature to customer, for them to choose frames on the website easier (Fu, 2023).

After more than 10 years of providing online service only, SmartBuyGlasses understand the market demand that customers need professional service from optometrists, to get their prescription lenses, they have launched their offline store for customers to get the offline services, such as taking eye examination and try-on the frames (SmartBuyGlasses, 2023).

1.2. Research Question

The research questions of this study are:

Q1. Which variables would affect consumers to adopt omnichannel retailing to purchase optical products?

Q2. Which variables have significant relationship with purchase intention of purchase optical products through omnichannel retailing?

Q3. How should local optical retailers to provide better services with omnichannel retailing?

1.3. Research Aim and Objectives

The research aims of this study are to find out the variables that would affect consumers to adopt and significant relationship with purchase intention on omnichannel retailing to purchase optical products.

The research objectives would be:

1. Find out the variables would affect consumers to adopt to purchase optical products through omnichannel retailing in Hong Kong.
2. Find out the variables that have significant relationship with purchase intention of optical products through omnichannel retailing in Hong Kong.
3. Summarize recommendations to local optical retailers to provide better services with omnichannel retailing.

1.4. Research Gap

Although there are many studies have analysed the acceptance of consumer purchasing different products, such as groceries, clothes, services, through omnichannel, there is lack of research on the impact of omnichannel retailing to consumers' purchase intention on optical products, especially in Hong Kong market.

1.5. Concluding Summary

Since omnichannel retailing has become natural and normal to consumers in Hong Kong, local retailers of optical industry could consider applying omnichannel for enhancing their services to customers. This study will find out the variables that would affect consumers to adopt and significant relationship with purchase intention on omnichannel retailing to purchase optical products.

2. Literature Review

In this chapter, the definitions and measurements of each variable of Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) and Channel Integration Quality would be explained. After that, the relationship in between variables and Purchase Intention also would be stated, to be combined as the theoretical basis of this study.

2.1 UTAUT2

In this study, UTAUT2 is one of the theory models has been used to be analyzed the relationship between its each variable with purchase intention of optical products on omnichannel retailing system, which was developed and integrated by Venkatesh and his research team members in 2012 (Venkatesh, Thong & Xu, 2012).

With the rapid development of technology, more products, services have been digitalized, and moved to online platform now. To catch up the trend, retailers would start to discover the platform and method to provide better and seamless service to their customers. However, they would not know whether their customers are willing to accept and use such new method and technology, as it is totally different to their shopping experience. Therefore, there are many researchers have used different models to explain and analyze the key factors that would affect customers' purchase / behavioral intention.

The Technology Acceptance Model (TAM) was proposed by Davis in 1986, has been widely adopted in different research studies in the past. TAM is based on the Theory of Reasoned Action, TRA, and TAM was developed by combining the two measures: ease of use and usefulness. This model is designed for measuring users' willingness of accepting and using new

technologies, such as online shopping, mobile applications, AI applications etc. The TAM includes six constructs, which are External variable, Perceived usefulness, Perceived ease of use, Attitude towards using, Behavioral intention to use and Actual system use (Davis, Bagozzi & Warshaw, 1989). Perceived ease of use refers to the degree to which users think it is easy to use the system. Perceived usefulness refers to the degree to which users can improve their performance by using the system (Davis, 1989).

In 2003, Venkatesh has discovered that there are variables couldn't be explained and analyzed enough by TAM, so he and his team had further expanded and developed the theory model to the Unified Theory of Acceptance and Use of Technology (UTAUT). There are four main constructs in the UTAUT model, which are Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions (Venkatesh, et al, 2003). In addition, gender, age, use experience and voluntariness were added as the control constructs in UTAUT.

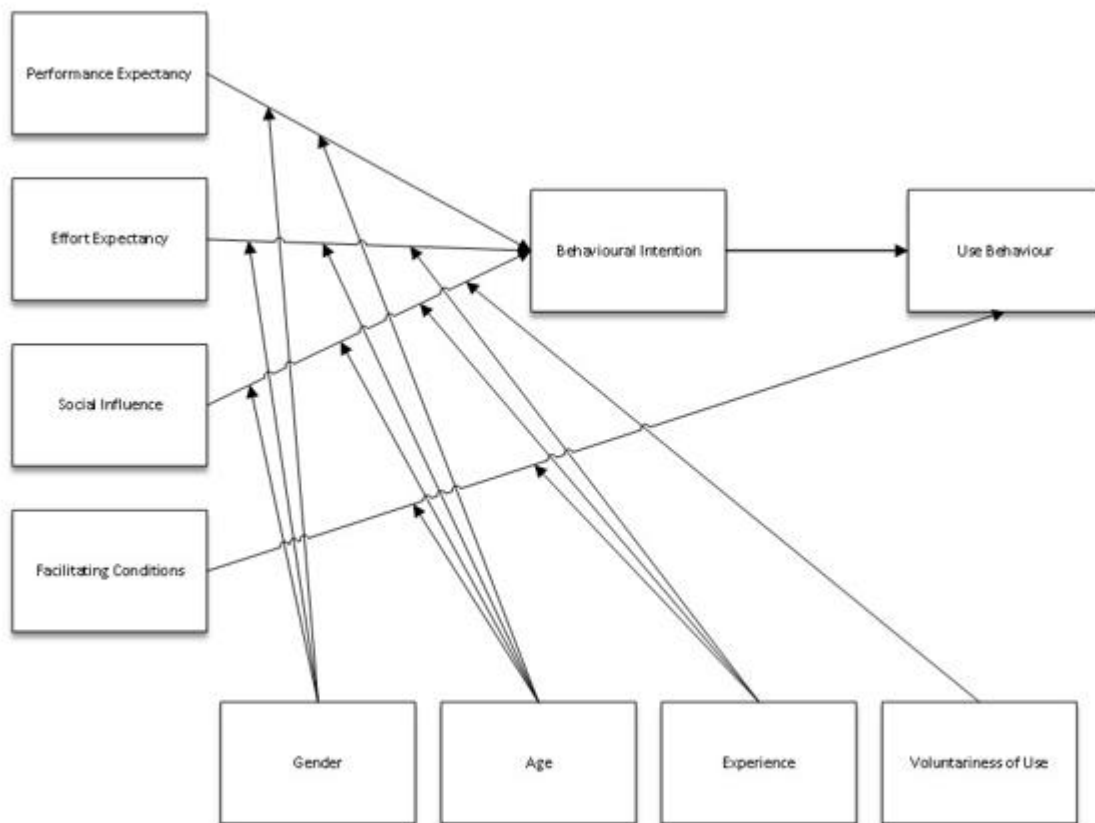


Figure 2.1: UTAUT model

Source: TheoryHub (2023)

However, in 2012, Venkatesh and his team had expanded the model again and developed the new model with three added constructs: Hedonic Motivation, Price Value, and Habit, but removed voluntariness, which was a control construct in UTAUT, and named it as Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) (Venkatesh, Thong & Xu, 2012). Currently, UTAUT2 is the most complete model to analyze the factors that would affect the behavioral and purchase intention of consumers. With UTAUT2 model to analyze, researchers would be able to compare and find out the factors that correlated with consumers' intention of adopting new technology, who with different background.

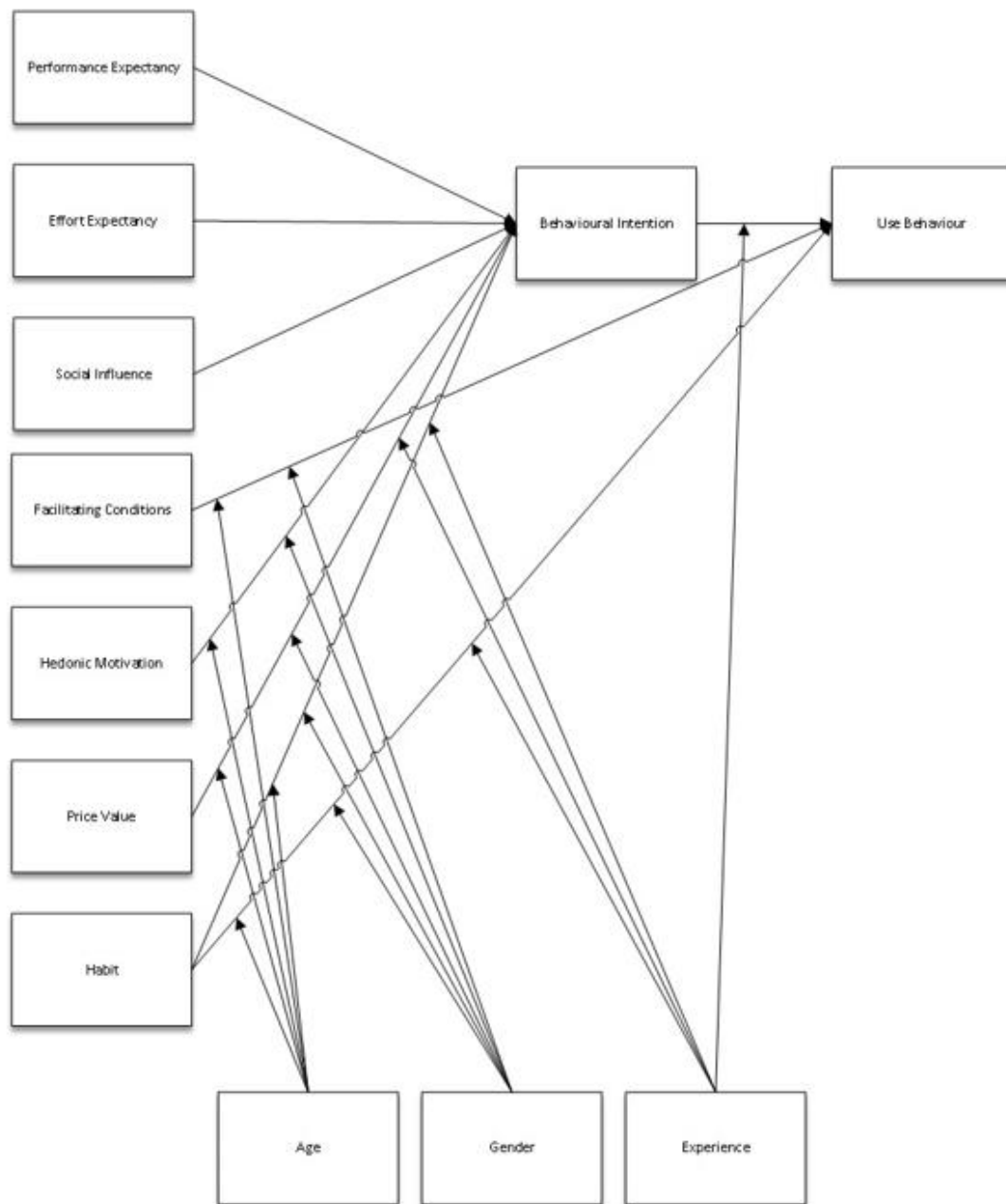


Figure 2.2: UTAUT2 model

Source: TheoryHub (2023)

For example, the students from different countries, who grew up in different background and culture, would have different thoughts about adopting E-learning technology. For US users, their intention is correlated with Habit and Price Value, but the Asian users would also consider

with Social Influence and Perceived Efficacy (Jung & Lee, 2020). Therefore, retailers may find out the factors that would affect their target customers' purchase intentions, and focus on improving their omnichannel service based on UTAUT2 variables: Performance Expectancy, Effort Expectancy, Price Value, Habit, Hedonic Motivation, Facilitating Condition and Social Influence.

2.1.1. Performance Expectancy

Consumers would be willing to use the system if they have high performance expectancy on it. Usually, performance expectancy is the variable which would affect behavioral (Venkatesh et al., 2003) and purchase intention (Pascual-Migueletal, Agudo-Peregrina & Chaparro-Peláez, 2015) the most. Once the customers find out that the omnichannel retailing system is useful, they would be more willing to adopt this new system to search of the information and purchase the products after.

2.1.1.1. Definition of Performance Expectancy

Performance expectancy is the degree of the user believes that using the system could help him or her to get benefits (Venkatesh, Thong & Xu, 2012) and easier the process (Panatan and Di Pietro, 2012) when purchasing products. Also, it reflexes how the user think the usefulness of the new technology or system (Waheed et al, 2016). From prior study, it showed consumers would be influenced to shop online if they found that it is more efficiency to use the system to purchase products (Chopdar et al, 2018) and positively related to repurchase intention (Celik, 2016).

2.1.1.2. Measurement of Performance Expectancy

According to the studies in 2020, Li and Lee have measurements of performance expectancy as the system helpful, increasing consumers' purchase ratio and efficiency and help consumer to get their ideal product sooner (Li, 2020; Lee, 2020). Referring to prior studies, the measurement of performance expectancy in this study would be how efficiency, such as usefulness, cost less time etc., it would be if consumer purchase optical products through omnichannel retailing.

2.1.2. Effort Expectancy

If the system or program request less effort that consumer need to put in while using it, they would like to use it more often. This variable is also important to acceptance of consumers to adopt new technology and predicting purchase intention (Venkatesh, Thong & Xu, 2012). Since optical market has different age groups and conditions of customers, including elderly and disabled people, they would be willing to accept and adopt the omnichannel retailing system if it is easy to use and they would feel it would be more convenience for them, which could enhance their shopping experience.

2.1.2.1. Definition of Effort Expectancy

The definition of effort expectancy is the degree of easiness/ effortless with the use of the system or program (Venkatesh et al.,2003). For omnichannel retailing system, customers would expect to complete their shopping through few different channels effortless, since the

information should be able to transfer internally, to achieve the seamless shopping experience to the customers (Ryu & Fortenberry, 2021).

2.1.2.2. Measurement of Effort Expectancy

Referring to prior study, the measurements of effort expectancy have been set as easy to use, easy to learn how to use, easy to be skillful (Kaur et al, 2020). The measurement of effort expectancy in this study would be the level of difficulty of learning how to purchase optical products through omnichannel retailing system.

2.1.3. Price Value

Price value is important to influence consumers' purchase intention, they are willing to purchase the products if they think the product value, including services, is higher than the cost that they spent. Therefore, Price Value would influence consumers' behavioral/purchase intention if they think the benefits of using the technology would bear the cost (Ul-Ain, Kaur and Waheed, 2015). For omnichannel retailing system, the time that consumers need for purchasing products also seen as "cost". Therefore, if the new system would save consumers' time and get the same product, the price value would be different than the traditional physical shopping method.

2.1.3.1. Definition of Price Value

The definition of price value is describing consumers would feel gaining benefits or advantages while adopting the new technology system (Dodds, Monroe and Grewal, 1991). In retailing

situation, price value may also include time cost that consumers have input while purchasing products (Boksberger and Melsen, 2011).

2.1.3.2. Measurement of Price Value

The measurement of price value in this study would be consumer thinks the price of purchasing optical products through omnichannel retailing system is reasonable, match with their values or even worth more than how much they cost (Li, 2020; Kaur et al, 2020), which referenced to the prior study.

2.1.4. Habit

With success experiences, usually customers would be willing to purchase products on the system again. After repeated purchase few times with high satisfaction, it will become their habit. From prior research, it shows that habit would influence the users' intention on adopting mobile application (Hew, Lee and Ooi, 2015). Once it has become the users' habit, using the new omnichannel retailing system to purchase optical products would become neutral. In Hong Kong, customers would easy to take the new system or technology as habit after they have experienced the process with high satisfaction once.

2.1.4.1. Definition of Habit

Habit is defined as the extent of consumer would perform behaviors, such as search products or information online, automatically (Venkatesh, Thong and Xu, 2012). It likes a reflect action. Prior study has stated "Continuous technology use becomes habitual, which means that well-

learned action sequences may be activated by environmental cues and then repeated without conscious intention (Bandyopadhyay and Fraccastoro, 2007).”

2.1.4.2. Measurement of Habit

The measurement of habit in this study would be the extent of consumer get used and feel natural with purchasing optical products through omnichannel retailing. Also, the continue usage of the system is considered as the measurement of habit (Chen Yeh, 2023). So consumer will use omnichannel retailing system to purchase optical products is added in this study as one of the measurements.

2.1.5. Hedonic Motivation

Hedonic motivation would affect purchase influence because the consumers would have positive impression with happy shopping experience. It will also increase the satisfactions during the process. Also, some researchers have found out that perceived enjoyment would direct effect on technology use (Thong, Hong and Tam, 2006; Van der Heijden, 2004). Therefore, customers would adopt the new omnichannel retailing system if they were enjoying the whole shopping experience on the channels, and easier for retailers to build up a better brand images with receiving positive feedback from customers.

2.1.5.1. Definition of Hedonic Motivation

The definition of hedonic motivation is consumer would feel pleasure from adopting new technology (Brown and Venkatesh, 2005), or it is the motivation user would enjoy with internal satisfaction by doing certain activity (Ryan and Deci, 2000).

2.1.5.2. Measurements of Hedonic Motivation

The measurement of hedonic motivation in this study would be the level of users' internal satisfaction while purchasing optical products through omnichannel retailing, which is referring to a study in 2021, the measurements are using the system to purchase products is fun, enjoyable and entertaining (Hutami and Maharani, 2021).

2.1.6. Facilitating Conditions

If using the systems require users to use those tools which are complicate or difficult to find, they may refuse to even try the system at all. Therefore, to attract users to adopt the new technology, simplifying the requirements would be the first factor to consider. For omnichannel retailing system, retailers may also develop their own mobile application as another channel for purchase. To provide a complete service for different users, retailers need to develop the application for different operating system (OS) for different brands of phone, Apple and Android, which would influence consumers' intention to use the new shopping system (Venkatesh, Thong and Xu, 2012).

2.1.6.1. Definition of Facilitating Conditions

Facilitating conditions is defined as the level of users believe that current existing organizational and basic tools is enough to support using new technology system (Venkatesh et al.,2003).

2.1.6.2. Measurement of Facilitating Conditions

According to the study in 2020, having the resources and knowledge that needed to use the new system are the measurements (Kaur et al., 2020). As the support from retailers are also important and treated as part of resource, it is also included as measurement. The measurement of facilitating conditions in this study is the extent of consumers think it's important to have enough resources and knowledge to support the use of omnichannel retailing for purchasing optical products.

2.1.7. Social Influence

People usually would get influenced by the others' opinions and comments to decide whether adopt new technology system or purchase products. There are few groups of people would affect users' intention: who are important to users, who could influence users' behavior and whose opinions users value (Kaur et al., 2020). In other circumstances, people would take the advices from the others on decision making, or reviewing others' comment, such as key opinion leader (KOL) from social media and celebrities, as references of adopting new technology or purchasing products, so social influence would also influence customers' behavioral and purchase intention.

2.1.7.1. Definition of Social Influence

The definition of social influence is the level of the influence to users from the others, who would connect with them, believe users should adopt new technology system (Venkatesh, Thong and Xu, 2012).

2.1.7.2. Measurement of Social Influence

The measurement of social influence in this study is the extent of consumers think it's important to have others' comment, which are from important people, those people who could influence their behavior and has opinions that they would value (Li, 2020), if they should use omnichannel retailing for purchasing optical products.

2.2 Channel Integration Quality

Referring to the article by Sousa and Voss in 2006, Channel Integration Quality is used to measure the quality level of the services on different channels that provided by retailers and how they merge them together for enhance customers' shopping experience. Therefore, Channel Integration Quality is important for retailers to develop omnichannel retailing system (Lee et al, 2019). To provide the seamless shopping experience to the customers, retailers must have a high quality system to manage and monitor both online and offline shopping processes (Nguyen, 2021), the quality also would influence the customers' satisfaction (Seck and Phillippe, 2013), the customers' impression to the branding (Emrich, Paul and Rudolph., 2015), and the behavioral and purchase intentions of customers (Chopra, 2016), including using the system to search for the products details and visit physical shops to try on.

Channel Integration Quality has two groups of dimensions: Channel service configuration and Integrated interactions. For the Channel service configuration, there are two sub-dimensions, which are breadth of channel service choice and transparency of channel service configuration; and for Integrated interaction, the sub-dimensions are content consistency and proves consistency (Sousa and Voss, 2006). From the dimensions, the names have defined what the key focus points of Channel Integration Quality are. In details, Channel service configuration

is more focusing on the relationship in between every channel, and easier for customers to understand the differences of them with the transparency of the system; and Integrated interaction is focusing on merging the information through different channels, to provide a consist and aligned shopping experience to customers (Fu, 2022). These are very important factors that retailers should pay attention to during building or transforming their retailing system to omnichannel services, therefore this model is also considered and referenced in this study.

The definitions and measurement that will be applied in this study of these four sub-dimensions will be explained in the following sections.

2.2.1 Breadth of Channel service choice

As omnichannel retailing is allowing consumers to purchase products across all channels, more choices of channels for customers, allow them to have more flexibility to complete tasks through different or preferred channels (Sousa and Voss, 2006). In Hong Kong, different retailers have already delivered omnichannel retailing services to their customers, with website check-out function, social media platform for introducing products, online communication apps for replying customers' enquiry and taking orders, and last but not least, the traditional offline physical shop, customers are already used to have different channel service choices for purchasing different products and these services have become "basic" for starting retail business in Hong Kong.

2.2.1.1 Definition of Breadth of Channel service choice

The definition of Breadth of Channel service choice is there are different channels that available for consumers to accomplish various tasks (Lee et al, 2019).

2.2.1.2 Measurement of Breadth of Channel service choice

The measurement of Breadth of Channel service choice is the extent of consumers think how important it is to have more alternative channels that available to choose for completing purchasing optical products through omnichannel retailing.

2.2.2 Transparency of Channel service

To make users feel secured to use the system, transparency of channel service is very important. On the other hand, transparency would allow consumers to understand each channel's functions and able to choose the suitable channel for themselves (Denis and Karsenty, 2004). Hong Kong customers usually would study the functions of different channels, mostly they expected to figure out if the retailers have a new channel that they could complete the whole purchase process through it, other than the traditional offline shopping. Therefore, transparency of the channel services is assumed as a key for setting up omnichannel retailing system in Hong Kong.

2.2.2.1 Definition of Transparency of Channel service

Transparency of Channel service is defined as awareness of consumer to available channels with understanding the service attributes of different channels (Wu and Chang, 2016).

2.2.2.2 Measurement of Transparency of Channel service

The measurement of Transparency of Channel service in this study is the extent of consumers think how important it is to have awareness all service channels and understand how to utilize different channels in omnichannel retailing system to meet their consumption needs.

2.2.3 Content Consistency

The consistency of providing information across all channels would increase users' confidence on using the system, and lower the risk of confusing them while purchasing items through omnichannel retailing system. Moreover, remain the content consist in every channel would be easier for retailers to manage the replies to customers enquiries. In Hong Kong market, content consistency is important in retailing industry. According to Trade Descriptions Ordinance, the information that retailers post on advertisements and different platforms would be monitored (Hong Kong e-Legislation, 2023). Therefore, retailers have responsibility to make sure every information that show on their channels are correct and consist, which would also improve customers' confidence to the brand. According to Hong Kong culture, time is precious and cost a lot. With the content consistency in the omnichannel retailing system, it would cost the customers less time to complete the purchase processes, and the effortless experiences, such as customers' interactions with other channels in omnichannel retailing system are always taken into account, would enhance customers' shopping experience.

2.2.3.1 Definition of Content Consistency

Content consistency is defined as providing the same information across the available service channels, and consumer should receive the same response from different channel when they approach either one of them (Sousa and Voss, 2006).

2.2.3.2 Measurement of Content Consistency

The measurement of Content Consistency in this study is the extent of consumers think how important it is to receive same response and information from different channels while purchasing optical products through omnichannel retailing.

2.2.4 Process Consistency

Since the flexibility of choosing different channels to complete different tasks, and all channels should be effortless transiting to each other for providing seamless shopping experience to consumers, process consistency is an important variable to predict if consumers would adopt omnichannel retailing. Due to aligning the brand images, feelings and performances to the customers through different platform, it may make customers to have a deep impression of the brand.

2.2.4.1 Definition of Process Consistency

The definition of process consistency is the attributes, such as images, feelings and performances, in different channels should be similar and consistent to consumer (Sun, Shen and Wang, 2016).

2.2.4.2 Measurement of Process Consistency

The measurement of Process Consistency in this study is the level of consumers think how important it is to have similar attributes in different channels while purchasing optical products through omnichannel retailing.

2.3 Purchase Intention

The dependent variable in this study is purchase intention, which is used to predict if consumer would adopt the new technology system and purchase products with it. In omnichannel retailing system, customers are able to purchase products and get services through both online and offline channels. Therefore, the purchase intention variable in this study is applied to both online and offline conditions.

2.3.1 Definition of Purchase Intention

The definition of purchase intention could be the decision of consumers to take action to process buying items (Rezvani, S., et al., 2012).

Since omnichannel retailing system includes online shopping as well, online purchase intention is also considered in this study. Online purchase intention is defined as the consumers are willing and intends to purchase items and services through online platforms (Meskaran, Ismail and Shanmugam, 2013). And according to the article by George in 2004, the willingness of searching related products' information online is also considered as part of customers' internet purchasing behavior.

2.3.2 Measurement of Purchase Intention

The measurement of Purchase Intention in this study is the extent of consumers would intent to purchase optical products through omnichannel retailing and continually this intention in the future (Kaur et al., 2020).

2.4 Relationship between variables

The relationship between each independent variable with purchase intention will be stated in this section, for further analysis and set up hypotheses for this study.

2.4.1 Performance Expectancy - Purchase Intention

From a study about consumers' purchase intention on omnichannel retailing, it shows that the performance expectancy positively related to the purchase intention (Ghani et al, 2020). Once consumer understand the value and benefit that they would get from using omnichannel to purchase products, it will invrease their purchase intention through adopting the new system.

2.4.2 Effort Expectancy - Purchase Intention

Referring to a study about key driver of technology acceptance and effect on purchase, it has proved that effort expectancy positively affects customers' omnichannel purchase intention (Juaneda-Ayensa, Mosquera and Sierra Murillo, 2016). If the new system require less effort and easy for consumer to learn, they would be willing to try and adopt using omnichannel retailing system.

2.4.3 Price Value – Purchase Intention

Once the customers learnt their benefits on using the new system, such as cost less time and effort, they will got affected on purchase intention (Venkatesh, Thong and Xu, 2012). Consumers would intent and feel confident to use omnichannel retailing if the price across the channels is reasonable to them.

2.4.4 Habit – Purchase Intention

Once the consumers get used to the new system with success and satisfaction experiences, purchasing products through omnichannel will become as their habit. A prior study showed that habit would positively influences customers' purchase intention and adopting new technology (Limayem, Hirt, and Cheung, 2007).

2.4.5 Hedonic Motivation – Purchase Intention

Prior study found out that with the fun and pleasure experience in using new technology, it would positively influence the users to adopt it (Ul-Ain, Kaur and Waheed, 2015). If consumers enjoy or feel fun with using omnichannel retailing, they would be willing to spend more time on it and purchase products with enjoyable shopping experience.

2.4.6 Facilitating Conditions – Purchase Intention

Setting the minimum requirement to adopt omnichannel retailing as basic internet knowledge and essential daily objects (smartphones), consumers would like to try the new system since it is easy to achieve. From prior study, it shows that if users have no support while facing difficult on using the new system, they would not willing to adopt it (Nanayakkara, 2007).

2.4.7 Social Influence – Purchase Intention

According to the study about users accepting new online system, it shows that the users would get influenced by surrounding people's comment (Al-Somali, Gholami and Clegg, 2009; Fidani, and Idrizi, 2012). As mentioned in definition of purchase intention, searching products online are also considered as part of online purchase intention. Therefore, social influence positively affects users to adopt new technology, is also positively affects the online purchase intention.

2.4.8. Breadth of Channel service choice – Purchase

Intention

Since prior researchers have proved that higher quality of service would increase customers' satisfaction (Woodside, Frey and Daly, 1989), with more options of channels that consumers would be able to choose in omnichannel, that is higher quality of channel service. Once the consumers have the flexibilities in choosing the channels to complete their purchase, higher of their satisfaction would positively influence their purchase intention (Piotrozicz and Cuthbertson, 2014). Consumers love to choose the channels to accomplish purchase freely. Therefore, broader range of channel choices available to consumers would enhance their purchase intention.

2.4.9. Transparency of Channel service – Purchase

Intention

With the advertisement or information posted on different platforms, which has the amount enough to draw consumers attention to aware the shops have services through diggerent channels, it will positively inflence their online purchase intention (Shen et al, 2018). Once consumers clearly understand the different service attributes of each channel, they could choose the suitable channel to complete tasks easier, which would positively affect on their purchase intention.

2.4.10. Content consistency – Purchase Intention

Content consistency is the key of building omichannel that providing aligned information through differeent channels to consumer (Cox, 2016), it would able to reduce the confusions to the consumer while they were shifting channels (Matt, 2016). With the higher sactisfaction shopping experience, consumers' purchase intention would be positively affected by content consistency.

2.4.11. Process consistency – Purchase Intention

Having the same brand images on different channels is easier for consumers to recognize the brand and have deeper impression (Boudine, 2016) while browsing on the internet or visiting the physical shops. Therefore, chain store brands usually have shops with similar decoration and same elements (Lee et al, 2019). Consumers would expect to purchase products through

omnichannel that the brand images, feeling and performance are consistent to them across all channels (Gilles, 2015). Therefore, it would affect purchase intention as well.

2.5 Concluding Summary

From above definitions, measurements and relationship of each variable, these will be the theoretical basis for further research to collect data for analyze.

To measure if this new system would be accepted by the customers, UTAUT2 is a suitable theory model to be applied for analyzing in this study, as it was developed from TAM and UTAUT, and prior researchers have fully explained the variables, Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Price Value, and Habit, that may influence customers' behavioral or purchase intention on different applications.

For measuring the important factors that would affect customers' purchase intention through omnichannel retailing system, Channel Integration Quality is used in this study. According to different studies in the past, those four dimensions, breadth of channel service choice, transparency of channel service configuration, content consistency and process consistency, would influence customers to adopt omnichannel shopping method with enhanced seamless shopping experience that the retailers provided.

Since omnichannel retailing system is a new concept for optical market in Hong Kong, it is a new technology to both retailers and customers, so UTAUT2 and Channel Integration Quality would be helpful for finding out the which variables that would affect the customers' purchase intention on optical products through omnichannel retailing system.

3. Research Methodology

In this chapter, the research framework and hypotheses will be generated base on research aims and objectives and theoretical basis in previous chapters. Then questionnaire will be designed accordingly, to collect data to prove the research hypotheses are valid.

3.1. Research Framework

Referring to previous chapter, based on the mentioned relationship between Purchase Intention and each variable of UTAUT2 and Channel Integration Quality, the research framework of this study has been generated as below:

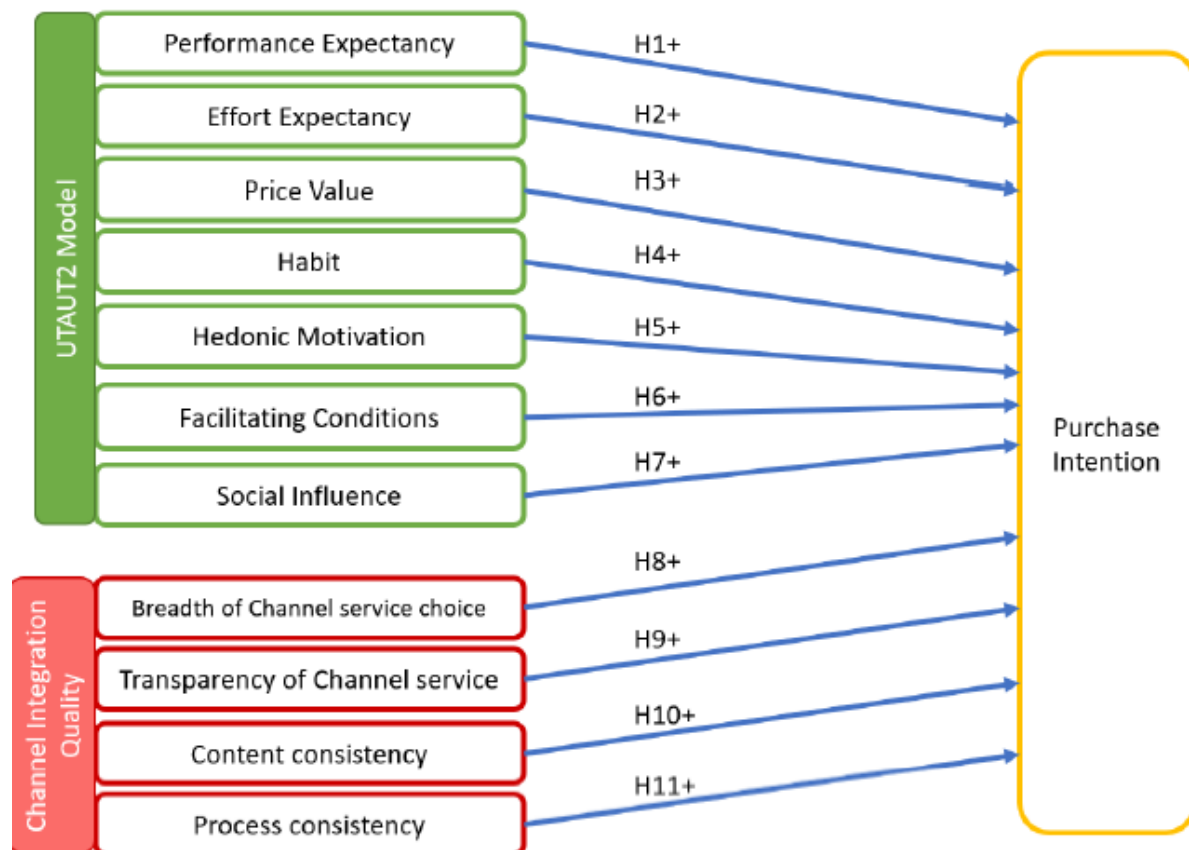


Figure 3.1: Research Framework

Construct by author

The framework has also showed the hypotheses of this study, which will be listed out in the following section.

3.2. Research Hypothesis

Referring to the previous chapter, the relationship between each independent variables and purchase intention have been described, and based on these relationships, the following hypotheses were thus proposed:

H1. Performance expectancy is positively related to purchase intention for optical products through omnichannel retailing (Ghani et al, 2020).

H2. Effort expectancy is positively related to purchase intention for optical products through omnichannel retailing (Juaneda-Ayensa, Mosquera and Sierra Murillo, 2016).

H3. Price value is positively related to purchase intention for optical products through omnichannel retailing (Venkatesh, Thong and Xu, 2012).

H4. Habit is positively related to purchase intention for optical products through omnichannel retailing (Limayem, Hirt and Cheung, 2007).

H5. Hedonic Motivation is positively related to purchase intention for optical products through omnichannel retailing (Brown and Venkatesh, 2005).

H6. Facilitating Conditions is positively related to purchase intention for optical products through omnichannel retailing (Nanayakkara, 2007).

H7. Social Influence is positively related to purchase intention for optical products through omnichannel retailing (Olschewski, et al., 2013).

H8. Breadth of Channel service choice is positively related to purchase intention for optical products through omnichannel retailing (Kazancoglu and Aydin, 2018).

H9. Transparency of Channel service is positively related to purchase intention for optical products through omnichannel retailing (Shen et al., 2018).

H10. Content consistency is positively related to purchase intention for optical products through omnichannel retailing (Cox, 2016).

H11. Process consistency is positively related to purchase intention for optical products through omnichannel retailing (Gilles, 2015).

3.3. Research Target

For smoothen the research and collecting data, research target should be decided before choosing the collection method. In this study, an online questionnaire will be set up and targeted to be filled in by a sample group of Hong Kong resident, who are 15 years old or older and that able to work because Labour Department of Hong Kong defined “children” as persons ages under 15 who are not allowed to be employed (Labour Department, 2023) and willing to purchase optical products no matter as vision aid products or fashion accessories. Since they are able to earn income, assumed that they would have the intention of purchasing products. Therefore, the research target group is set as Hong Kong resident 15 years old or older. Therefore, the first part of the questionnaire will be screening if the respondents are 15 years old or above, before allowing them to enter the second part.

Moreover, optical products that considered in this study not just vision aid products, also including colour contact lenses, sunglasses and frames with plano lenses, which would be seen as fashion accessories as well, so the target group does not limit to those people that have need

of wearing eyeglasses for vision aid purpose or myopia control, and need to visit optometrists for professional eyecare service regularly.

On the other hand, target group may not familiar with omnichannel retailing system, or noticing there are some optical shops offering omnichannel retailing services already in Hong Kong, they do not need to have experience on purchasing products through omnichannel, especially for optical products. As they may have comments on not thinking it is necessary to have omnichannel retailing system to enhance their shopping experience, this kind of comments should be analyzed as well to keep the result objective and reliable.

3.4. Type of Research and Data Collection Method

Research types has divided into two types: Qualitative and Quantitative data analysis. Qualitative research method is mainly to cross analyze data and research inferences to generated conclusion of the research (Emmel, 2013; Bernard, 2017). To collect qualitative data for this study, focus group, interviews (primary data) and literature reviews (secondary data) will be used.

Quantitative research method adopts a positivist perspective to study social phenomena with statistical analysis (Brannen, 2017). To collect quantitative data for this study, online questionnaire (primary data) will be used, for finding out if the variables would affect consumers' purchase intention on optical products through omnichannel retailing. This questionnaire was separated into two parts, first part would be having the screening questions for figuring out the age of the respondents. The second part of the questionnaire would be the questions, which listed in Appendix 1, for dependent variables, measurement items of UTAUT2 and Channel Integration Quality, and independent variables, Purchase Intention. Respondents access to the online questionnaire by getting the link, which would be sent out

with a message through social media and online communication application, two channels of omnichannel retailing system, and answer questions on Google form.

Before launching the questionnaire, there was a pilot test for checking the survey questions, as the sample size of pilot test should be at least 10 – 20% of total sample size (Osadolar, 2023), this study has collected 40 responds for pilot test, which is over 10% of 385 respondents. The reason of taking pilot test is to access the following six aspects: to check if the instructions are clear enough; any typo or grammar mistakes; relevance of items; format is suitable; would the wording causes any confusion; the key points of each measurement is correct (Fowler and Cosenza, 2009). While collecting the 40 responses for running the pilot test, there was a focus group interview for reviewing the questions with ten respondents when they were answering the questionnaire, to have their comments about the instructions and wordings or anything needed to be adjusted before launching the questionnaire.

For the focus group, there are 3 male and 7 female members, two are 15 – 24 years old, six are 25 – 44 years old and two are 45 – 64 years old. Two of them are working in optical industry in Hong Kong. After reviewing their comments, the following was added and adjusted in the questionnaire:

1. The detail explanation of Omnichannel service (with graphic)
2. Example of shopping process through omnichannel
3. Questions should have Chinese translation as it is native languages for most of Hong Kong residents
4. State clear that optical products are also seen as fashion accessories in this study
5. From the two respondents that work in optical industry, they suggested to state clear that offline services would not be taken away in omnichannel retailing services in introduction

section of the questionnaire, as this is the most common question or inquiry they got from their customers.

3.5. Sampling Method

According to the prior researches, there are many different sampling methods have been used for studies. Overall, these methods are defined into two categories: Probability sampling and Non-probability sampling (Berndt, 2020).

Probability sampling is mainly about the random sampling methods, which means the subjects in the target population are equally to have chances to become the respondents for collecting data for the study (Shorten and Moorley, 2014). Such as Simple Random, Stratified Random, Systematic and Clustered random (Fox, 2010; Berndt, 2020).

Non-probability sampling methods would have subjects in the target population that may not have equal chance to be selected as the respondents (Fox, 2010). These methods are: Convenience, Judgmental and Snow-ball (Gravetter and Forzano, 2003).

About snowball sampling, this method is usually applied when the ‘deviant’ (Becker, 1963) or a guarded community (McNamara, 1994), which are hard to reach for taking the questionnaire for study. Since the limitation of social circle of each person may be different, using snowball sampling may reach to some respondents that have different background, to get a more subjective result. And from a study that would like to invite backpackers as respondents, which are difficult to meet in person, researcher then recruit the respondents online with the flexibility of accessing the internet with mobiles (Noy, 2008). To apply snowball sampling, researcher usually will approach the initial respondents, or called as “seed”, for pilot test through sharing the link of questionnaire on online communication application and social media first. After that, initial respondents would help to spread out the questionnaire or recruit new respondents for further research (Parker, Scott and Geddes, 2019).

Snowball sampling was chosen to be applied in this study, 40 initial respondents were reached for pilot test, then spread out the questionnaire to other respondents.

The sample group for this questionnaire would be Hong Kong residents who aged 15 and over as mentioned, the total popular is shown as below table:

Year		2021			
		Population Aged 15 and Over		Population Aged 15 and Over (Excluding Foreign Domestic Helpers)	
		Number of Persons	Percentage	Number of Persons	Percentage
Sex	Marital Status				
Male	Never married	914 936	30.8	914 630	30.9
	Married	1 839 629	62.0	1 837 960	62.0
	Widowed	70 367	2.4	70 340	2.4
	Divorced	125 833	4.2	125 746	4.2
	Separated	15 503	0.5	15 429	0.5
	Total	2 966 268	100.0	2 964 105	100.0
Female	Never married	976 031	26.8	895 097	27.0
	Married	2 030 509	55.8	1 840 222	55.4
	Widowed	354 827	9.8	344 528	10.4
	Divorced	252 984	7.0	220 539	6.6
	Separated	24 013	0.7	20 152	0.6
	Total	3 638 964	100.0	3 321 138	100.0

Table 3.1: Population Aged 15 and Over in Hong Kong

Source: Census and Statistics Department (2022)

Since the size of population is too large, so the sample size of this study would be at least 385 to achieve 95% confident that the true value of the estimate will be within 5 percentage points of 0.5 (Aron and Aron, 1999):

$$n = [Z^2 * p * (1-p)] / e^2$$

$$n = (1.96)^2 (0.5)(0.5) / (0.05)^2 = 385$$

So, the minimum sample size of this study will set as 385.

To achieve the number of sample size, the sampling will be taken through non-probabilistic sampling process with snowball sampling. The reason that the non-probabilistic sampling was chosen for this study, is that social media platform and other online communication applications are channels of accessing omnichannel retailing system, and the questionnaire is

in online form format. Therefore, only those people who could access internet to take the questionnaire to become the respondents of this study.

3.6. Questionnaire Design

The questionnaire of this study was designed according to the measurements of each variable that mentioned in chapter 2, most of the measurement standards of UTAUT2, Channel Integration Quality and purchase intention are referring to prior studies.

The Likert scale was applied in the questionnaire, which is one of the most common measurement methods (Baumeister, Vohs and Funder, 2007; Clark and Watson, 2019), also it is a convenient method to measure unobservable constructs (Jebb, Ng and Tay, 2021).

All measures in this study will be phrased as six-point Likert scales, from 1 (strongly disagree) to 6 (strongly agree). The reason to choose six-point is to encourage respondents to consider carefully before answering the questions, the results would lean positively or negatively (Thompson, 2018), to avoid getting the result as neutral or undecided like five-point and seven-point Likert scales. More important is, a study result shows that there will be less psychometric accuracy if the response scales have only two to five points, and also it shows no advantage on psychometric with more than 6 points scale (Simms et al, 2019). Therefore, six-point Likert scales was selected to apply in the questionnaire.

3.6.1. Performance Expectancy Questions Design

As mentioned in previous chapter, performance expectancy is used to reflect the usefulness of a new system or technology that users think it would help them to complete the purchase procedures.

Individual Variable	Questions	Source
Performance Expectancy	3	Venkatesh et al. (2003)
PE1. It is useful when I would purchase optical products with omnichannel retailing.		
PE2. It would help me shorten process time to complete my optical products purchase with omnichannel retailing.		
PE3. Using omnichannel retailing, is easier for me on making decisions of products style (such as frames or contact lenses colour).		

Table 3.2: Questions for Performance Expectancy

Construct by author

Therefore, the above questions that designed for performance expectancy are related to usefulness and the time cost of using omnichannel retailing system.

3.6.2. Effort Expectancy Questions Design

Effortless shopping experience would affect customers' purchase intention. More complicated procedures would confuse users and make them to refuse to use the system ever again.

Individual Variable	Questions	Source
Effort Expectancy	4	Venkatesh et al. (2003)
EE1. Easy to learn how to purchase optical products through omnichannel is important to me.		
EE2. Having clear and understandable process while using omnichannel retailing to buy optical products is important to me.		
EE3. Easy to use omnichannel retailing system to shop optical products is important to me.		
EE4. Having simple procedures during shopping optical products through omnichannel retailing system is important to me.		

Table 3.3: Questions for Effort Expectancy

Construct by author

The easiness of using omnichannel retailing system to purchase optical products is the key point of the above questions.

3.6.3. Price Value Questions Design

If users could gain benefits or advantages through using a new system, they would have higher behavioral and purchase intention.

Individual Variable	Questions	Source
Price Value	3	Dodds et al. (1991); Venkatesh, Thong and Xu, (2012)
PV1. I think using omnichannel retailing to purchase optical products with reasonable price is important to me.		
PV2. I think using omnichannel retailing to purchase optical products can have the products with good value is important to me.		
PV3. I think the products would have better value at the current price by purchasing through omnichannel retailing is important to me.		

Table 3.4: Questions for Price Value

Construct by author

In Hong Kong, consumers often concern about the price value and would consider carefully before make up the decision to buy the products, including consumable products.

3.6.4. Habit Questions Design

Once the usage of the system has become consumers' habit, it would positively affect their behavioral and purchase intention.

Individual Variable	Questions	Source
Habit	4	Venkatesh et al. (2003)
HT1. I think using omnichannel retailing to purchase optical products would become a habit for me		
HT2. I think I will use omnichannel retailing more to purchase optical products in the near future		
HT3. I think I would addicted to use omnichannel retailing to purchase optical products		
HT4. I think using omnichannel retailing to purchase optical products would become natural to me		

Table: 3.5: Questions for Habit

Construct by author

In the questionnaire of this study, the questions for habit are designed to see if respondents would think omnichannel will become neutral for purchasing optical products, maybe not currently but in the future it will be.

3.6.5. Hedonic Motivation Questions Design

Referring to the prior studies, users would like to adopt the new technology with high satisfaction experience. Joyful process would motivate consumers to use omnichannel retailing system.

Individual Variable	Questions	Source
Hedonic Motivation	3	Childers et al. (2001) Brown and Venkatesh (2005)
HM1. Using omnichannel retailing to buy optical products would be fun is important to me.		
HM2. Using omnichannel retailing to buy optical products would be enjoyable is important to me.		
HM3. Using omnichannel retailing to buy optical products would be entertaining is important to me.		

Table 3.6: Questions for Hedonic Motivation

Construct by author

With a delightful shopping experience, consumers' impression to the brand may improve and their purchase intention would be positively affected.

3.6.6. Facilitating Conditions Questions Design

According to literature review, the definition of facilitating conditions is the level of users believe that they have enough tools and resources to support using new technology or system.

Individual Variable	Questions	Source
Facilitating Conditions	3	Venkatesh et al. (2003) Venkatesh, Thong and Xu (2012) Thomas et al. (2013)
FC1. I think to have the resources necessary to use omnichannel retailing to purchase optical products is important.		
FC2. I think to have the knowledge necessary to use omnichannel retailing to purchase optical products is important.		
FC3. I can get help from retailers when I have difficulties using omnichannel retailing to purchase optical products is important to me.		

Table 3.7: Questions for Facilitating Conditions

Construct by author

Getting assists from the retailers during the purchase process also seen as resource for consumers to adopt the omnichannel retailing system.

3.6.7. Social Influence Questions Design

Users would easily get influenced with the others' comment and suggestions to adopt new technology, especially those are closed to them and having similar background.

Individual Variable	Questions	Source
Social Influence	3	Venkatesh et al. (2003)
SI1. Recommendation from my close friends on using omnichannel retailing to purchase optical products is important to me.		
SI2. Recommendation from those people, who could influence my behavior, on using omnichannel retailing to purchase optical products is important to me.		
SI3. Recommendation from those people, whose opinions I value, on using omnichannel retailing to purchase optical products is important to me		

Table 3.8: Questions for Social Influence

Construct by author

In Hong Kong, hiring KOL in advertisement for promoting products and services is very common, and usually posting them on social media for faster to reach different customer groups.

3.6.8. Breadth of Channel service choice Questions Design

Multiple choices of channels for consumers would also enhance their shopping experience and influence their purchase intention with such as flexible service.

Individual Variable	Questions	Source
Breadth of Channel service choice	3	Sousa and Voss (2006) Madaleno, Wilson and Palmer (2007)
BCC1. I think more alternative channels to choose to complete purchase optical products is important for me		
BCC2. I think able to complete different tasks through different channels is important to me		
BCC3. I think able to complete purchase optical products through any channels is important for me		

Table 3.9: Questions for Breadth of Channel service choice

Construct by author

Since omnichannel services could transferring the data internally in the retailing system, also customers could complete different tasks on different channels, therefore making sure they understand there are several channels' choices is important for this questionnaire.

3.6.9. Transparency of Channel service Questions Design

The transparency of a retailing system's services would gain customers' confidence and trust to the retailers, which may influence their purchase intention.

Individual Variable	Questions	Source
Transparency of Channel service	3	Sousa and Voss (2006) Wu and Chang (2016)
TCS1. I would aware of the existence of all available service channels in omnichannel retailing system.		
TCS2. I would aware of the differences between service attributes across different channels in omnichannel retailing system.		
TCS3. I think I know how to utilize different channels in omnichannel retailing system to meet my consumption needs is important to me.		

Table 3.10: Questions for Transparency of Channel service

Construct by author

In Hong Kong, consumers would aware about the transparency of the services that they are receiving. This would be easier for them to understand the functions of each channel, then adopt the system faster.

3.6.10. Content Consistency Questions Design

To avoid confusing customers while using the omnichannel retailing, contents on every channel should be aligned as the same. Based on this, below questions were designed.

Individual Variable	Questions	Source
Content consistency	3	Sousa and Voss (2006)
CC1. I think receiving the same response through different channels in omnichannel retailing system is important to me.		
CC2. I think when I interact with one channel, my interactions with other channels in omnichannel retailing system are always taken into account is important to me.		
CC3. I think the information is consistent across different channel in omnichannel retailing system is important to me.		

Table 3.11: Questions for Content Consistency

Construct by author

Refer to prior studies, consistence of the content would give consumers positive images and persuade them that the system is reliable to use. A purchase experience without confusion would also influence consumer re-purchase intention.

3.6.11. Process consistency Questions Design

The definition of process consistency is to providing the similar images, feelings, and performance on every channel that included in the same omnichannel retailing system to the consumers.

Individual Variable	Questions	Source
Process consistency	3	Sousa and Voss (2006) Madaleno, Wilson and Palmer (2007)
PC1. I think the service feelings are consistent across different channels in omnichannel retailing system is important to me.		
PC2. I think the service images are consistent across different channels in omnichannel retailing system is important to me.		
PC3. I think the service performance are consistent across different channels in omnichannel retailing system is important to me.		

Table 3.12: Questions for Process consistency

Construct by author

With the similar images, both online platform and offline stores, this could reduce the confusion to consumer to recognize the services on different channels are all from the same brand.

3.6.12. Purchase Intention Questions Design

Users using the system to search the products through social media or website is also counted as online purchase intention in this study.

Individual Variable	Questions	Source
Purchase Intention	3	Venkatesh et al. (2003) Venkatesh, Thong and Xu (2012)
PI1. I would adopt to purchase optical products through omnichannel retailing system.		
PI2. I have plan to purchase optical products through omnichannel retailing system in the near future.		
PI3. I think I will continuely purchase optical products through omnichannel retailing system.		

Table 3.13: Questions for Purchase Intention

Construct by author

The questions were designed to measure if the respondents adopt omnichannel retailing system and purchase optical products in near future and the re-purchase intention of using the system.

3.7. Data Analysis

To analyse the data that collected from questionnaire, IBM's Statistical Package for the Social Sciences (SPSS) software was used to get the Cronbach's Alpha value, plotting linear regression and run the correlation test according to the research hypotheses.

The analyses that would be done in SPSS software for this study are: Descriptive Statistics, Reliability Analysis, Correlation Test, Regression Analysis.

3.7.1. Descriptive Statistics

Descriptive statistics is mainly applied on describing and understanding a group of data by stating short summaries, and presenting how the results reflects in a simply way (Hayes, 2023). There are three types of descriptive statistics: distribution, central tendency and variability (Bhandari, 2020).

In this study, central tendency will be used, the mean is an indicator of central tendency used to describe data and it was calculated by summing up all of the scores then divided by the total numbers of replies (Ali and Bhaskar, 2016). With the Likert scale 6 point method, the scale is from 1 to 6, so if the mean is more than 3.5, most of the respondents agreed to the question.

3.7.2. Reliability Analysis

Reliability Analysis is usually used to study the properties of measurement scales and check if the data is reliable for study (Bobbitt, 2021). Cronbach's Alpha test is applied in this study, and if the values lower than 0.7, then those variables would be defined as questionable (Skoczyliis, 2021), and below 0.35 would be defined as not acceptable (Cuieford, 1965).

Cronbach's Alpha value (Cuieford, 1965)	$\alpha < 0.35$	Not reliable
	$0.35 \leq \alpha \leq 0.7$	Slightly reliable
	$0.7 < \alpha \leq 0.8$	Reliable
	$\alpha > 0.8$	Very reliable

Table 3.14: Cronbach's Alpha value

Construct by author

Therefore, the Cronbach's Alpha values are targeted to be above 0.7, or else will need to revise the questionnaire by adjusting the wordings to ensure the content validity is able to continue for further analysis.

3.7.3. Correlation Test

In this study, Pearson correlation is used, to measure the linear relationship between two variables, using value from -1 to 1 to define the strength and negative or positive relationship (Nettleton, 2014).

Pearson Correlation (Nettleton, 2014)	$1.0 > r \geq 0.7$	Strongly Positively Correlated
	$0.7 > r \geq 0.4$	Positively Correlated
	$0.4 > r > 0$	Slightly Positively Correlated
	$r = 0$	Not Correlated
	$0.0 > r \geq -0.4$	Slightly Negatively Correlated
	$-0.4 > r \geq -0.7$	Negatively Correlated
	$-0.7 > r \geq -1.0$	Strongly Negatively Correlated

Table 3.15: Pearson Correlation value

Construct by author

If the correlation value is positive, it means that when the independent variable goes up, then dependent variable will also go up; if the correlation value is negative relationship, when the independent variable increases, the dependent variable will decrease.

3.7.4. Regression Analysis

Regression Analysis is the most common method to examine the relationship between several independent variables and dependent variable (Freedman, 2009). The multiple linear regression formula as below:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_tX_t + e$$

Where, Y is the dependent variable, X is the independent variables, a is the y-intercept, b is the coefficient beta and the e is the regression residual (Beers, 2023).

In the Regression Analysis, R-squared value will be calculated as well, it is used to measure the amount of variance is explained with the value range from 0 to 1 (Allwright, 2022).

R-Squared value	Interpretation
0.75 - 1	Significant amount of variance explained
0.5 - 0.75	Good amount of variance explained
0.25 - 0.5	Small amount of variance explained
0 - 0.25	Little to no variance explained

Table 3.16: R-Squared value

Source: Allwright, 2022

In general, R-Squared value should be at least 0.5, which indicate that 50% of the variance is explained by the independent variables (Allwright, 2022). So, the result could be a reference for further research in the future.

Moreover, significance level, as known as p-value, is used to prove if the null hypothesis is supported or rejected, usually would be having p-value below 5%, and also divided into 3 levels: 5%, 1% and 0.1% (Singh, 2013).

3.8. Concluding Summary

In this chapter, the research framework and hypotheses are presented referring to the relationship between dependent variables and independent variables as mentioned in previous chapter. After that, the research methodology that will be used in this study has been explained, including setting 196 as sample size for online questionnaire through non-probabilistic sampling process, which would be gathered with snowballing technique.

Questionnaire design for each variable also described in this chapter, which are having at least three items of each variable and were referring to which prior researches or studies.

After receiving the responds of the questionnaire, SPSS software will be used to analysis if the results could support the hypotheses, Descriptive Statistics, Reliability Analysis, Correlation Test and Regression Analysis are applied in this study. The definition and usage of each test are explained in the previous section, for more understanding of each test and how the values could help to determine the relationships between the variables.

With the research methodology, the data has been collected successfully and the results will be presented in the next chapter.

4. Interpretation of Result

The collecting period is from 15 July 2023 to 19 October 2023, and total have received 215 valid responses. During the collecting period, the process had been checked up for twice, once was on 18 August 2023, as only received 106 responds by that, requests have been sent out again on the same day; the second check up was on 26 September 2023, only received 189 responds and sent out the requests and invitation link to the online questionnaire again. However, the number of total valid responses is 215, which achieve 95% confident that the true value of the estimate will be within 7 percentage points of 0.5.

In this chapter, the data that collected from online questionnaire will be analysis with tests in SPSS software, which are Descriptive Statics, Reliability Analysis, Correlation Test and Regression Analysis, and the results are shown in the following sessions. On the other hand, the sample structure analysis will be used to describe the gender and age group distribution of the sample group. After all of the data analysed, it could show if the hypotheses are supported by the responses from online questionnaire.

4.1. Sample Structure Analysis

For this study, the frequencies test of descriptive statistics in SPSS software was used to describe the sample structure. According to the below tables, they show that the gender and age distribution of sample group.

In this sample group, there are 133 female respondents (61.9%) and 82 male respondents (38.1%) in total. On the other hand, 121 of them are 25 – 44 years old, which is more than half of the population of the sample group; the age groups of 15-24 years old and 45-64 years old have similar numbers of respondents, which is 37 and 36 people separately; the age group of over 65 years old has the least population, only 21 respondents.

		Gender			Population in Hong Kong
		Frequency	Percent	Valid Percent	
Valid	女 Female	133	61.9	61.9	54.4%
	男 Male	82	38.1	38.1	45.6%
	Total	215	100.0	100.0	

Table 4.1: Gender of samples
Construct by author

		Age			Population in Hong Kong
		Frequency	Percent	Valid Percent	
Valid	15 - 24	37	17.2	17.2	8.8%
	25 - 44	121	56.3	56.3	31.6%
	45 - 64	36	16.7	16.7	35.8%
	65+	21	9.8	9.8	23.8%
	Total	215	100.0	100.0	

Table 4.2: Age of samples
Construct by author

According to Hong Kong government Census and Statistics Department's latest population report that summarised until the end of 2022, 54.4% of the population is female and 45.6% is male. The difference between the report and this report of the gender distribution is having about 7.5% difference, and larger difference between the sample age group with the population reports from government, this may because of the sample was collected with non-probability snowball sampling method, which would effected by researcher's social circle population.

4.2. Descriptive Statistics

In this section, the descriptive statistics is used to analyse the answers from the respondents, calculating the mean and stand deviation of each question that was designed for variables, to see if the respondents agree the description of the items or not. Referring to the previous chapter, as the Likert scale 6-point is applied in this study, if the mean value is above 3.5, then it represents most of the respondents agree with the question.

4.2.1. Performance Expectancy

According to the below table, all three questions have mean values more than 3.5, and the one has the highest mean value is respondents agree omnichannel retailing system would help them shorten process time to complete purchase optical products with it, which has 4.26 with standard deviation as 1.013.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PE1. It is useful when I would purchase optical products with omnichannel retailing PE1. 我認為全通路對我購買眼鏡產品是有用的	215	1	6	4.25	1.082
PE2. It would help me shorten process time to complete my optical products purchase with omnichannel retailing PE2. 我認為利用全通路可令我更短時間完成購買眼鏡產品的過程	215	1	6	4.26	1.013
PE3. Using omnichannel retailing, is easier for me on making decisions of products style (such as frames or contact lenses colour) PE3. 我認為利用全通路可令我更易揀選產品款式(例如: 框架或隱形眼鏡顏色)	215	1	6	4.23	1.119
Valid N (listwise)	215				

Table 4.3: Descriptive Statistics of Performance Expectancy
Construct by author

Since three values are very close to each other, which shows respondents actually also agree that purchasing optical products with omnichannel retailing system is useful and easier for them to choose products style.

4.2.2. Effort Expectancy

From the below table, it shows that respondents agree easy to use and having simple procedures to purchase optical products through omnichannel retailing system are important, which both have mean value as 4.67 with less than 1 as standard deviation.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
EE1. Easy to learn how to purchase optical products through omnichannel is important to me. EE1. 我覺得容易學習利用全通路購買眼鏡產品是重要的	215	2	6	4.43	.959
EE2. Having clear and understandable process while using omnichannel retailing to buy optical products is important to me. EE2. 我覺得利用全通路購買眼鏡產品有清晰易明過程是重要的	215	2	6	4.65	.969
EE3. Easy to use omnichannel retailing system to shop optical products is important to me. EE3. 我認為容易操作全通路來購買眼鏡產品是重要的	215	2	6	4.67	.970
EE4. Having simple procedures during shopping optical products through omnichannel retailing system is important to me. EE4. 我認為若使用全通路購買眼鏡產品有簡易程序是重要的	215	2	6	4.67	.955
Valid N (listwise)	215				

Table 4.4: Descriptive Statistics of Effort Expectancy
Construct by author

All four items are having high mean value, so easy to lean and having clear process are also important, they have mean value as 4.43 and 4.65 separately.

4.2.3. Hedonic Motivation

Referring to below result, it shows that respondents slightly agree on having enjoyable shopping experience on omnichannel retailing system to purchase optical products is important.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
HM1. Using omnichannel retailing to buy optical products would be fun is important to me. HM1. 我認為使用全通路購買眼鏡產品是有趣是重要的	215	1	6	3.89	1.088
HM2. Using omnichannel retailing to buy optical products would be enjoyable is important to me. HM2. 我認為使用全通路購買眼鏡產品是享受是重要的	215	1	6	4.04	1.091
HM3. Using omnichannel retailing to buy optical products would be entertaining is important to me. HM3. 我認為使用全通路購買眼鏡產品有娛樂效果是重要的	215	1	6	3.62	1.205
Valid N (listwise)	215				

Table 4.5: Descriptive Statistics of Hedonic Motivation
Construct by author

Although all three mean value is over 3.5, but they are just slightly above the level. Therefore, overall respondents think that it is not important that having fun and entertaining to use omnichannel retailing to buy optical products.

4.2.4. Facilitating Conditions

Reviewing all of the mean value of the items, the highest score is 4.83 with standard deviation as 1.032, which is respondents think it is important to able to get help from retailers when they have difficulties while using omnichannel retailing to purchase optical products.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
FC1. I think to have the resources necessary to use omnichannel retailing to purchase optical products is important. FC1. 我認為具備使用全通路所需資源購買眼鏡產品是重要的	215	1	6	4.37	.996
FC2. I think to have the knowledge necessary to use omnichannel retailing to purchase optical products is important. FC2. 我認為具備使用全通路所需知識購買眼鏡產品是重要的	215	2	6	4.41	.948
FC3. I can get help from retailers when I have difficulties using omnichannel retailing to purchase optical products is important to me. FC3. 我認為當我使用全通路購買眼鏡產品遇到困難時, 可找到商家幫助是重要的	215	2	6	4.83	1.032
Valid N (listwise)	215				

Table 4.6: Descriptive Statistics of Facilitating Conditions
Construct by author

Regarding to other two items of Facilitating Conditions, both of them also show that most of the respondents think having resources and knowledge necessary to use omnichannel retailing to purchase optical products are important.

4.2.5. Social Influence

Overall, most of respondents would think that social influence is important and would affect their intention of adopting omnichannel retailing to purchase optical products.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
SI1. Recommendation from my close friends on using omnichannel retailing to purchase optical products is important to me. SI1. 與我親近的朋友對我使用全通路購買眼鏡產品的推介是重要的	215	1	6	4.19	.978
SI2. Recommendation from those people, who could influence my behavior, on using omnichannel retailing to purchase optical products is important to me. SI2. 會影響我行為的人對我使用全通路購買眼鏡產品的推介是重要的	215	1	6	4.24	.965
SI3. Recommendation from those people, whose opinions I value, on using omnichannel retailing to purchase optical products is important to me SI3. 我重視意見的人對我使用全通路購買眼鏡產品的推介是重要的	215	1	6	4.32	.978
Valid N (listwise)	215				

Table 4.7: Descriptive Statistics of Social Influence
Construct by author

From above table, it shows that the recommendation from those people, whose opinions the respondents value, on using omnichannel retailing to buy optical products is more important than from close friends or those people would influence their behaviour to the respondents.

4.2.6. Price Value

According to the below table, respondents would concern about to getting reasonable price on the omnichannel retailing system to purchase optical products, which has the mean value as 4.76 with the standard deviation lower than 0.9.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PV1. I think using omnichannel retailing to purchase optical products with reasonable price is important to me. PV1. 我認為使用全通路購買眼鏡產品可得到合理的價錢是重要的	215	2	6	4.76	.890
PV2. I think using omnichannel retailing to purchase optical products can have the products with good value is important to me. PV2. 我認為使用全通路購買眼鏡產品可得到良好價值的產品是重要的	215	3	6	4.69	.927
PV3. I think the products would have better value at the current price by purchasing through omnichannel retailing is important to me. PV3. 我認為在以目前的價格下使用全通路購買眼鏡產品, 會有提升產品的價值是重要的	215	2	6	4.34	.943
Valid N (listwise)	215				

Table 4.8: Descriptive Statistics of Price Value
Construct by author

On the other hand, getting a product with good value through omnichannel retailing is also important, having the mean value as 4.69, and the minimum score that respondents have valued is 3, which is slightly disagree.

4.2.7. Habit

Most of the respondents seems do not agree that using omnichannel retailing system to purchase optical products would become their habit, especially they don't think that they would addict it, which has the mean value as 3.24 with highest standard deviation overall.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
HT1. I think using omnichannel retailing to purchase optical products would become a habit for me HT1. 我認為使用全通路購買眼鏡產品會成為我的習慣	215	1	6	4.09	1.055
HT2. I think I will use omnichannel retailing more to purchase optical products in the near future HT2. 我認為我將會更經常使用全通路購買眼鏡產品	215	1	6	4.05	1.159
HT3. I think I would addicted to use omnichannel retailing to purchase optical products HT3. 我認為我會沉迷使用全通路購買眼鏡產品	215	1	6	3.24	1.300
HT4. I think using omnichannel retailing to purchase optical products would become natural to me HT4. 我認為使用全通路購買眼鏡產品會變得自然	215	1	6	4.17	1.059
Valid N (listwise)	215				

Table 4.9: Descriptive Statistics of Habit
Construct by author

Nevertheless, respondents still think using omnichannel retailing system to purchase optical products would become natural, maybe in the future as this would become a trend in the industry.

4.2.8. Breadth of Channel service choice

Referring to below table, able to complete the whole purchase procedure of buying optical products through any channels is the most important to the respondents in the breadth of channel service choice variable, which has a high mean value with 4.63.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BCC1. I think more alternative channels to choose to complete purchase optical products is important for me BCC1. 我認為更多替代渠道可供選擇以完成購買眼鏡產品是重要的	215	2	6	4.45	.879
BCC2. I think able to complete different tasks through different channels is important to me BCC2. 我認為可在不同渠道完成不同程序是重要的	215	2	6	4.43	.963
BCC3. I think able to complete purchase optical products through any channels is important for me BCC3. 我認為可在任何一條渠道完成購買眼鏡產品是重要的	215	1	6	4.63	.918
Valid N (listwise)	215				

Table 4.10: Descriptive Statistics of Breadth of Channel service choice
Construct by author

Actually, the other two items also have quite high mean values, both of them has more than 4.40, and “BCC1. I think more alternative channels to choose to complete purchase optical products is important for me” has the lowest standard deviation of the whole study. Therefore,

respondents think more channels that available for customers to choose to purchase optical products is important.

4.2.9. Transparency of Channel service

Base on the result, respondents think that it is important to know how to utilize different channels in omnichannel retailing system to meet their consumption needs. For example, they may browse the frame designs online, communicate with the retailers to check stock, get the eye examination in the physical store, then choose the expected delivery method.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TCS1. I would aware of the existence of all available service channels in omnichannel retailing system. TCS1. 我會留意所有全通路可用的服務渠道	215	1	6	4.21	1.050
TCS2. I would aware of the differences between service attributes across different channels in omnichannel retailing system. TCS2. 我會留意全通路不同渠道服務屬性之間的差異	215	1	6	4.20	1.089
TCS3. I think I know how to utilize different channels in omnichannel retailing system to meet my consumption needs is important to me. TCS3. 我認為我懂得如何善用全通路不同的服務渠道來滿足我的消費需求是重要的	215	1	6	4.33	1.035
Valid N (listwise)	215				

Table 4.11: Descriptive Statistics of Transparency of Channel service
Construct by author

On the other hands, they would also aware the existence and differences of all available service channels in the omnichannel retailing system, as different retailers may have different design of each channel.

4.2.10. Content consistency

The content consistency is very important to the respondents on using omnichannel retailing system to purchase optical products, all three items have very high mean value, more than 4.60.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CC1. I think receiving the same response through different channels in omnichannel retailing system is important to me. CC1. 我覺得從全通路的不同渠道得到一樣的回覆是重要的	215	1	6	4.69	.928
CC2. I think when I interact with one channel, my interactions with other channels in omnichannel retailing system are always taken into account is important to me. CC2. 我認為當我選擇在任 何一個渠道購買時, 全通路 的其他渠道將有我購買互動 的資料是重要的	215	1	6	4.61	.974
CC3. I think the information is consistent across different channel in omnichannel retailing system is important to me. CC3. 我覺得全通路的不同 渠道提供一致的資訊是重要 的	215	1	6	4.80	.982
Valid N (listwise)	215				

Table 4.12: Descriptive Statistics of Content Consistency
Construct by author

The most important is to receive the same information across different channels in the omnichannel retailing system, which has the second highest mean value in this study, with 4.80 and 0.982 as the standard deviation.

4.2.11. Process consistency

According to the result, having the consistent of service feelings, images and performance across different channels in the omnichannel retailing system is quite important to respondents.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PC1. I think the service feelings are consistent across different channels in omnichannel retailing system is important to me. PC1. 我認為全通路各渠道提供一致的服務感受是重要的	215	1	6	4.60	.970
PC2. I think the service images are consistent across different channels in omnichannel retailing system is important to me. PC2. 我認為全通路各渠道提供一致的服務印象是重要的	215	1	6	4.57	.949
PC3. I think the service performance are consistent across different channels in omnichannel retailing system is important to me. PC3. 我認為全通路各渠道提供一致的服務表現是重要的	215	1	6	4.55	.994
Valid N (listwise)	215				

Table 4.13: Descriptive Statistics of Process Consistency
Construct by author

All three items have mean values as 4.55 or above, and very close to each other. That would explain the respondents would consider the process on both online and offline services would be the same, and usually would influence their impression to the brand.

4.2.12. Purchase Intention

From the below table, the purchase intention of the respondents is having a positive result. They agreed that they would adopt to purchase optical products through omnichannel retailing system, which has the mean value as 4.29. Although it is not a significant high score, but most of the respondents are assumed to have a positive impression on omnichannel retailing system.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PI1. I would adopt to purchase optical products through omnichannel retailing system. PI1. 我會使用全通路購買眼鏡產品	215	1	6	4.29	1.051
PI2. I have plan to purchase optical products through omnichannel retailing system in the near future. PI2. 我有打算短期內使用全通路購買眼鏡產品	215	1	6	3.64	1.249
PI3. I think I will continually purchase optical products through omnichannel retailing system. PI3. 我將會持續使用全通路購買眼鏡產品	215	1	6	4.18	1.123
Valid N (listwise)	215				

Table 4.14: Descriptive Statistics of Purchase Intention
Construct by author

The reason that having a lower mean value of planning to purchase optical products through omnichannel retailing system in the near future is the definition of “near future”, which will be discussed in the next chapter.

4.3. Reliability Analysis

In the previous chapter, the scale of Cronbach’s Alpha value has been explained, the value should be over 0.7 to be defined as reliable. Cronbach’s Alpha value was used to test if the variables and their aspects would have the internally consistence in this study.

Variables	No. of Items	Cronbach’s Alpha Value
Performance Expectancy	3	0.911
Effort Expectancy	4	0.920
Price Value	3	0.826
Habit	4	0.893
Hedonic Motivation	3	0.876
Facilitating Conditions	3	0.857
Social Influence	3	0.916
Breadth of Channel service choice	3	0.832
Transparency of Channel service	3	0.909
Content consistency	3	0.922
Process consistency	3	0.943
Purchase Intention	3	0.881

Table 4.15: Cronbach’s Alpha Value of each variable
Construct by author

From above table, all of the variables / aspects having the Cronbach’s Alpha value more than 0.8, which means the questions items of this questionnaire are very reliable. Process Consistency has the highest Cronbach’s Alpha value, which is 0.943; Next is Content Consistency, has the value as 0.922.

4.4. Correlation Test

Correlation test is used to evaluate and analysis the relationship between two variables. Before run the test, the average values of each variable were transformed in the SPSS software, and using the average value to take the test. In this study, Pearson correlation coefficient, which is the most common correlation test method, is applied.

		PE_AVG	EE_AVG	HM_AVG	FC_AVG	SI_AVG	PV_AVG	HT_AVG	BCC_AVG	TCS_AVG	CC_AVG	PC_AVG	PI_AVG
PE_AVG	Pearson Correlation	1											
	Sig. (2-tailed)												
EE_AVG	Pearson Correlation	.695**	1										
	Sig. (2-tailed)	< .001											
HM_AVG	Pearson Correlation	.590**	.398**	1									
	Sig. (2-tailed)	< .001	< .001										
FC_AVG	Pearson Correlation	.711**	.730**	.542**	1								
	Sig. (2-tailed)	< .001	< .001	< .001									
SI_AVG	Pearson Correlation	.599**	.564**	.656**	.615**	1							
	Sig. (2-tailed)	< .001	< .001	< .001	< .001								
PV_AVG	Pearson Correlation	.641**	.718**	.485**	.767**	.632**	1						
	Sig. (2-tailed)	< .001	< .001	< .001	< .001	< .001							
HT_AVG	Pearson Correlation	.667**	.410**	.657**	.537**	.592**	.456**	1					
	Sig. (2-tailed)	< .001	< .001	< .001	< .001	< .001	< .001						
BCC_AVG	Pearson Correlation	.550**	.642**	.495**	.704**	.569**	.666**	.573**	1				
	Sig. (2-tailed)	< .001	< .001	< .001	< .001	< .001	< .001	< .001					
TCS_AVG	Pearson Correlation	.645**	.544**	.643**	.634**	.603**	.560**	.704**	.638**	1			
	Sig. (2-tailed)	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001				
CC_AVG	Pearson Correlation	.556**	.641**	.414**	.600**	.592**	.630**	.508**	.701**	.623**	1		
	Sig. (2-tailed)	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001			
PC_AVG	Pearson Correlation	.573**	.630**	.500**	.645**	.616**	.636**	.490**	.652**	.650**	.704**	1	
	Sig. (2-tailed)	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001		
PI_AVG	Pearson Correlation	.641**	.362**	.569**	.471**	.535**	.445**	.758**	.508**	.645**	.507**	.519**	1
	Sig. (2-tailed)	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	

Table 4.16: Correlation Test results
Construct by author

From table 4.16, all independent variables have positive relationship with dependent variable, purchase intention, which means these would be the factors that influence the customers' purchase intention.

Regarding to Chapter One, one of the research aims is to find out the variables would affect consumers to adopt to purchase optical products through omnichannel retailing in Hong Kong. Since the question items of purchase intention have designed to ask about adopting omnichannel retailing system, purchasing optical products through the omnichannel retailing in near future and will continually use omnichannel retailing system to buy optical products,

seems using the average of Purchase Intention to run the correlation test could not answer the research question and reaching the aim.

Therefore, another correlation test has been run with all the independent variables with only the purchase intention of adopting the omnichannel retailing system for purchasing optical products, the results are shown as below table:

Correlations													
		PE_AVG	EE_AVG	HM_AVG	FC_AVG	SI_AVG	PV_AVG	HT_AVG	BCC_AVG	TCS_AVG	CC_AVG	PC_AVG	PI1. I would adopt to purchase optical products through omnichannel retailing system. PI1. 我會使用全通路購買眼鏡產品
PE_AVG	Pearson Correlation	1											
EE_AVG	Pearson Correlation	.695**	1										
HM_AVG	Pearson Correlation	.590**	.398**	1									
FC_AVG	Pearson Correlation	.711**	.730**	.542**	1								
SI_AVG	Pearson Correlation	.599**	.564**	.656**	.615**	1							
PV_AVG	Pearson Correlation	.641**	.718**	.485**	.767**	.632**	1						
HT_AVG	Pearson Correlation	.667**	.410**	.657**	.537**	.592**	.456**	1					
BCC_AVG	Pearson Correlation	.550**	.642**	.495**	.704**	.569**	.666**	.573**	1				
TCS_AVG	Pearson Correlation	.645**	.544**	.643**	.634**	.603**	.560**	.704**	.638**	1			
CC_AVG	Pearson Correlation	.556**	.641**	.414**	.600**	.592**	.630**	.508**	.701**	.623**	1		
PC_AVG	Pearson Correlation	.573**	.630**	.500**	.645**	.616**	.636**	.490**	.652**	.650**	.704**	1	
PI1. I would adopt to purchase	Pearson Correlation	.685**	.466**	.543**	.567**	.569**	.509**	.710**	.575**	.683**	.589**	.582**	1

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

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

Table 4.17: Correlation Test results – Adopt omnichannel
Construct by author

Comparing Table 4.16 and 4.17, except Hedonic Motivation and Habit, all of other independent variables have higher Pearson Correlation Coefficient. Even though the r value of Habit was different of two tables, it is still the highest r value with higher than 0.7 in both tables, which means it is strongly positively correlated to purchase intention. Effort expectancy has the lowest coefficient as 0.362 and 0.466, which is slightly positively correlated to purchase intention.

4.5. Regression Analysis

After taking the Pearson correlation test in the previous section, regression analysis has to be taken as well. The reason is that Pearson correlation analysis is a simple and general data representation of the correlation between variables, without considering if there is collinearity or mutual influence between different variables or not.

In regression analysis, the dependent variable and independent variables were assigned before running the test. To verifying the relationships between the independent variables which would influence the users to adopt the omnichannel retailing system to purchase optical products, the dependent variable was set as “PI1. I would adopt to purchase optical products through omnichannel retailing system.” for this study.

Model Summary^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.804 ^a	.647	.628	.642

Table 4.18: Regression Analysis - Model Summary
Construct by author

According to previous chapter, if the R-Squared value is over 0.5, it is good amount of variance explained. The result in the regression analysis has R-Squared value as 0.647, which means 64.7% of variance is explained by the independent variables.

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	152.970	11	13.906	33.780	<.001 ^b
	Residual	83.570	203	.412		
	Total	236.540	214			

Table 4.19: Regression Analysis – ANOVA
Construct by author

With the significant level, p-value, is lower than 0.1%, which proved that this regression model is highly significant.

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.114	.287		.399	.690		
	PE_AVG	.368	.082	.346	4.502	<.001	.295	3.392
	EE_AVG	-.222	.092	-.183	-2.424	.016	.306	3.267
	HM_AVG	-.062	.068	-.059	-.909	.365	.406	2.462
	FC_AVG	.007	.097	.006	.074	.941	.270	3.709
	SI_AVG	.060	.078	.051	.762	.447	.385	2.599
	PV_AVG	-.027	.099	-.020	-.274	.784	.314	3.180
	HT_AVG	.297	.075	.282	3.946	<.001	.340	2.940
	BCC_AVG	.091	.096	.069	.944	.346	.329	3.036
	TCS_AVG	.185	.078	.171	2.354	.020	.331	3.025
	CC_AVG	.163	.083	.139	1.973	.050	.353	2.835
	PC_AVG	.131	.078	.115	1.678	.095	.371	2.693

a. Dependent Variable: PI1. I would adopt to purchase optical products through omnichannel retailing system.

PI1. 我會使用全通路購買眼鏡產品

Table 4.20: Regression Analysis – Results
Construct by author

To see the relationship between the independent variables and dependent variable, the standardized coefficients beta is used to determine whether it is positive or negative relationship. However, it also needed to consider with the p-value, only those below 5% would be considered to have significant relationship with the dependent variable.

From Table 4.20, it shows that Performance Expectancy, Habit, Transparency of Channel service and Content consistency has significant positive relationship with the intention of adopting the omnichannel retailing system to purchase optical products. Also, the Effort Expectancy has the significant negative relationship, which is opposite of the research hypothesis that stated in previous chapter.

Histogram
 Dependent Variable: PI1. I would adopt to purchase optical products through omnichannel retailing system.
 PI1. 我會使用全通路購買眼鏡產品

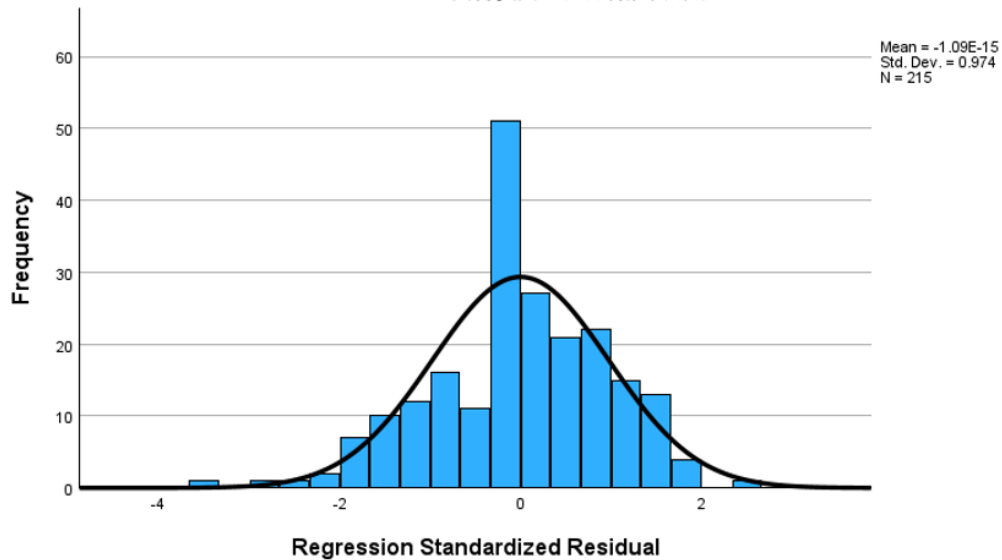


Figure 4.1: Regression Analysis – Histogram
 Construct by author

Scatterplot
 Dependent Variable: PI1. I would adopt to purchase optical products through omnichannel retailing system.
 PI1. 我會使用全通路購買眼鏡產品

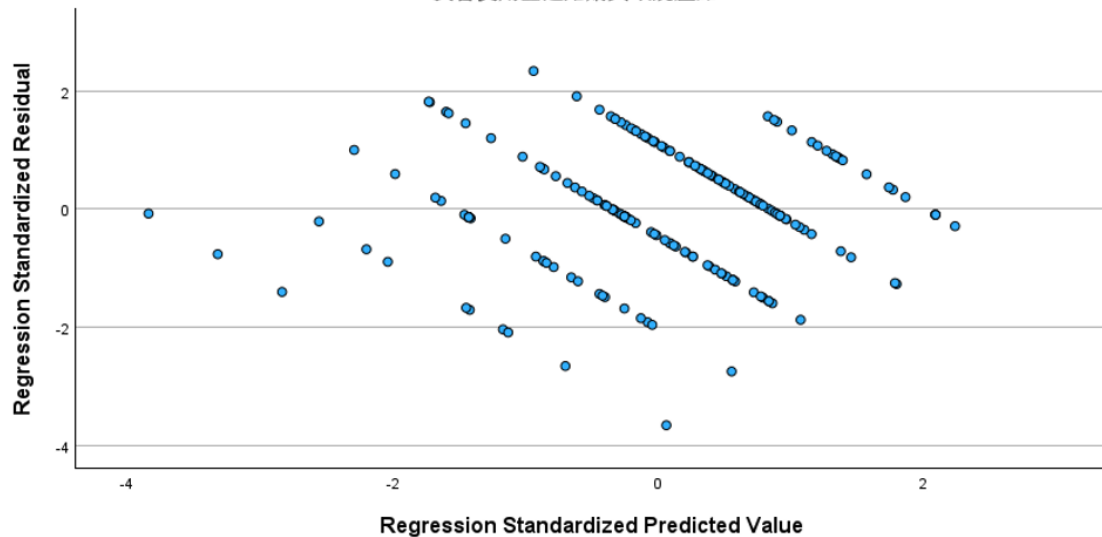


Figure 4.2: Regression Analysis – Scatterplot
 Construct by author

From above histogram and scatterplot, the standardized residual are aligning to the bell shape, and the scatterplot shows the points may gather together and form straight lines, this proved that it is normal distribution for this case.

4.6. Research Hypothesis Verification

After analysing the data that collected from the online questionnaire, the results show the relationships in between each independent variables and the purchase intention. As mentioned in previous chapters, online purchase intention was used in this study, using the system to browse and search for the products also considered as a kind of online purchase intention. Therefore, the relationship between adopting omnichannel retailing system to purchase optical products and the variables of UTAUT2 and Channel Integration Quality will be used to verify if the research hypotheses, which was stated in Chapter 3, are supported by the responds or not.

H1. Performance expectancy is positively related to purchase intention for optical products through omnichannel retailing. - Supported

H2. Effort expectancy is positively related to purchase intention for optical products through omnichannel retailing. – Not supported

H3. Price value is positively related to purchase intention for optical products through omnichannel retailing. – Not supported

H4. Habit is positively related to purchase intention for optical products through omnichannel retailing. - Supported

H5. Hedonic Motivation is positively related to purchase intention for optical products through omnichannel retailing. – Not supported

H6. Facilitating Conditions is positively related to purchase intention for optical products through omnichannel retailing. – Not supported

H7. Social Influence is positively related to purchase intention for optical products through omnichannel retailing. – Not supported

H8. Breadth of Channel service choice is positively related to purchase intention for optical products through omnichannel retailing. – Not supported

H9. Transparency of Channel service is positively related to purchase intention for optical products through omnichannel retailing. - Supported

H10. Content consistency is positively related to purchase intention for optical products through omnichannel retailing. - Supported

H11. Process consistency is positively related to purchase intention for optical products through omnichannel retailing. – Not supported

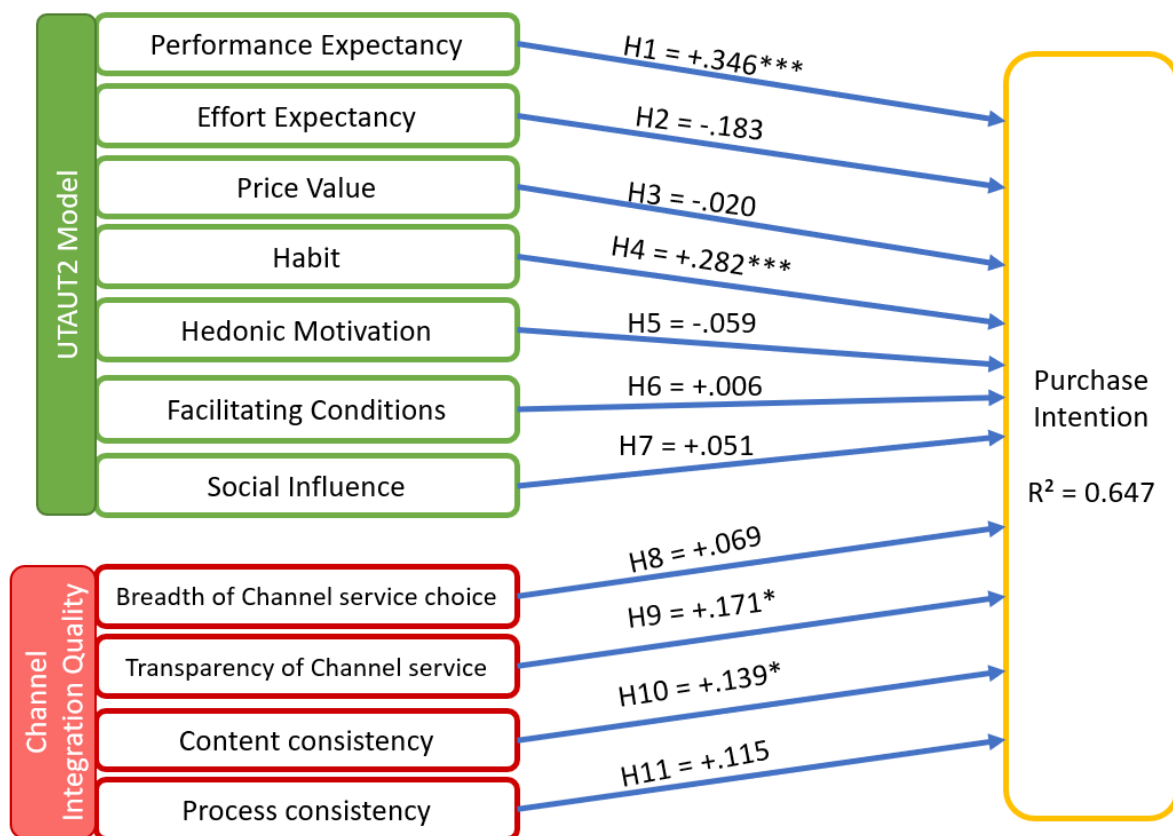


Figure 4.3: Strutural Analysis – Variables affect purchase intention

Construct by author

To easier to review the relationships, the results were input in the research framework, with having the star signs to describe the significant levels. If p-value is below 0.1%, it will be marked ***; if p-value is below 1%, it will be marked **; and if p-value is lower than 5%, it will be marked * in the figure.

4.7. Concluding Summary

For this study, there are total 215 valid responds were collected from online questionnaire, and the data has been analysed with different tests, such as Sample Structure Analysis, Descriptive Statistics, Reliability Analysis, Correlation Test (Pearson Correlation Coefficients) and Regression Analysis, to get the results as the relationships between each independent variables and the dependent variable.

According to the results of Regression Analysis, Performance Expectancy and Habit are highly positively related to purchase intention for optical products through omnichannel retailing in Hong Kong; Transparency of Channel service and Content Consistency are also positively related to purchase intention for optical products though omnichannel retailing in Hong Kong. On the other hand, referring the descriptive statistics, Facilitating Conditions and Content Consistency have the highest mean value in both UTAUT2 and Channel Integration Quality models separately, but Facilitating Conditions has standard deviation more than 1, which is too high.

Base on the results, the research questions could be answered and the discussion will be continued in the next chapter.

5. Conclusions and Recommendations

In this chapter, based on the results that showed in the Chapter 4, the further discussion and conclusions will be stated. On the other hands, the recommendations for the future research of purchase intention of omnichannel retailing system will also be mentioned.

5.1. Conclusion and Discussion

According to the results, Performance Expectancy and Habit, which have the significant relationship with purchase intention, are would highly affect consumers to adopt omnichannel retailing to purchase optical products, Transparency of Channel service and Content Consistency would also slightly affect the consumers as well.

Therefore, if the local retailers in the optical industry would like to develop their omnichannel retailing system, and providing the omnichannel services to their customers, they should base on these four aspects to improve their services, to influence their customers' online purchase intention.

Regarding to the results, UTAUT2 has two variables would affect customers' purchase intention on adopting omnichannel retailing system, which are Performance Expectancy and Habit.

For Performance Expectancy, mainly will be to increase the usefulness of the system in customers' impression, such as they may find their prescription record, or the system would automatically help them to enter their prescription in their shopping experience. Moreover, if the system could make an appointment easily, so it can shorten the shopping time that needed than before, it is also an improvement of the performance of the services with the omnichannel retailing system.

For Habit, retailers may start to consider regularly educate their customers to use the omnichannel retailing system, at least introducing them about the other channels that they haven't reached or browsed before. By that, it is possible to allow customers to try the new channels with retailers' assist at the beginning, easier to have better impression of the system and the brand. Once it has become their habit, they will get used to search products through different channels, and higher probability to influence customers' re-purchase intentions.

Channel Integration Quality, another theory model that have been applied in this study, also has two variables would affect customers' intention on purchasing optical products through omnichannel retailing system in Hong Kong.

For Transparency of Channel service, retailers should have clear boundaries of the functions on each channel, setting up the features with suitable channel, to avoid the confusion. For example, the optical physical shops can provide the eye examination to get the most updated prescription result when buying the eyeglasses; and the online shop may contain the records of the customers with the membership system, easier for them to repurchase other frames with same prescription at home or anywhere.

For Content Consistency, it is very important to avoid confusion would occur in customers' shopping experience. Once they found out that the information of the products is different across channels, customers may just withdraw the purchase on any channel of the retailing system. So, remaining the information consist and accurate would positively influence customers to adopt the omnichannel retailing system to purchase products, and gaining their better impression of the brand.

Moreover, from the descriptive statistics part in previous chapter, the highest mean value of the question items is able to get help from retailers when the customers have difficulties during

the shopping process. No matter which channel that customers were processing the purchase, retailers' immediate responds and assist would be delighting the shopping experience. With higher satisfaction, customers will have a better impression with the brand, and also influence the purchase intention.

In conclude, the acceptance of omnichannel retailing for optical products in Hong Kong is positive, which proved from the result of the online questionnaire. To further develop the system to influence more users to adopt omnichannel retailing system to purchase optical products, those variables that mentioned above could be considered to improve the current omnichannel retailing system.

5.2. Recommendations

According to Li's study in 2020, the researcher suggested to encourage those users who aged older to learn about using the mobile app for payment to become their habit (Li, 2020). Suitable training and assist would help more customers to adopt new technology or system, especially elderly people. This method could also apply on using omnichannel retailing system to purchase optical products, since getting assists from retailers while facing difficulties during the shopping experience has the highest mean value in the descriptive analysis in this study. Similar to Apple service as mentioned in Chapter 1, system operation education is also one of the important services that they have provided to elderly customers. Once the customers have known the system well and find it is useful, purchasing optical products through omnichannel will become their habit, which also proved as having significant positive relate to purchase intention from Chapter 4.

On the other hand, Content Consistency and Transparency of Channel service would also influence the purchase intention of customers. Rakkhitawatthana recommended to ensure the

staffs that work in offline shops should provide the same information as the online customer service center, since customers may aware the information and services across all of the existing channels (Rakkhitawatthana, 2021). This study was analysing the customers' satisfaction on omnichannel in Thailand, this could be a reference to increase the satisfaction of shopping experience through omnichannel in Hong Kong as having similar Asian background and culture.

There are few limitations in this research study, first would be the definition of optical products, since public has bias on optical products are vision aid products, which must be completing purchase with optometrists' or retailers' assist. Secondly, snowball sampling would affect the accuracy of the responds from questionnaire, as the sample population may not match with the exact amount of public, usually would relate to researcher's social circle and background. Therefore, the result may not able to reflect the exact opinions of public. Due to the snowball sampling method, it is hard to ensure the respondents who have experience of purchasing optical products, or having any experience to get any service from optical shops. Thirdly, respondents do not familiar with "omnichannel", even though they may have experienced with omnichannel retailing system before. From the focus group, the explanation of omnichannel retailing was needed, and giving out examples with famous brand or shops would help a lot.

For future study for optical industry or products, better to avoid assuming the respondents would treat them as fashion accessories. Easier to set eyeglasses as vision aid tools which is the most common reason that customers would purchase it for. Also, setting the sample target as recently purchased eyeglasses and contribute with optical shops are highly recommended. For the explanation of omnichannel retailing, may provide the respondents with the examples that they may have experienced before, or explain with the services from a brand would be easier to understand. As mentioned in Chapter 1, Optical 88, the largest chain optical shops in

Hong Kong, could be a good choice as they already developed their omnichannel retailing system.

While designing the question items for the online questionnaire, the wordings of each question should be clearer and review the impression of the wordings. In the online questionnaire, there was an item stated “HT3. I think I would addict to use omnichannel retailing to purchase optical products.”, comes out the word “addict” means differently to each respondents, some of them think that it is a negative wording, addiction is not a good thing, seems will keep buying the optical products no matter they need it or not, like couldn’t control themselves; but some of them have another understanding, they treat this statement as: every time they need to purchase optical products, they would purchase it through omnichannel retailing system right away.

For another question item, “PI2. I have plan to purchase optical products through omnichannel retailing system in the near future.”, the term of “near future” may not suitable for asking about purchasing optical products. Although the category of optical products was described and stated they could also be fashion accessories in the online questionnaire, respondents still seeing “optical products” as vision aid tools / instrument. Even sunglasses and colour contact lenses are very common in Hong Kong as fashion accessories and most of them do not need prescription or eye examination from optometrists, respondents also think the meaning of the item is to buy the product with eye examination, usually once a year, as per their impression. By that, the purchase intention results from the questionnaire may affected. Moreover, “near future” has different time definition, some may think within few months, some may think within a year, and also some would think is until their next planning.

Also, as omnichannel retailing system includes few different online channels, such as websites and social media platforms, Electronic Word of Mouth (eWOM) could be considered to add in research framework as independent variable that would influence purchase intention for the

future study, as mentioned that having KOL to post advertisement on social media platforms is common promotion.

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Appendix A

Questionnaire, constructed by author:

Gender: Male / Female
Age: 15 - 24 / 25 - 44 / 45 - 64 / 65 or above
PE1. It is useful when I would purchase optical products with omnichannel retailing.
PE2. It would help me shorten process time to complete my optical products purchase with omnichannel retailing.
PE3. Using omnichannel retailing, is easier for me on making decisions of products style (such as frames or contact lenses colour).
EE1. Easy to learn how to purchase optical products through omnichannel is important to me.
EE2. Having clear and understandable process while using omnichannel retailing to buy optical products is important to me.
EE3. Easy to use omnichannel retailing system to shop optical products is important to me.
EE4. Having simple procedures during shopping optical products through omnichannel retailing system is important to me.
PV1. I think using omnichannel retailing to purchase optical products with reasonable price is important to me.
PV2. I think using omnichannel retailing to purchase optical products can have the products with good value is important to me.
PV3. I think the products would have better value at the current price by purchasing through omnichannel retailing is important to me.
HT1. I think using omnichannel retailing to purchase optical products would become a habit for me
HT2. I think I will use omnichannel retailing more to purchase optical products in the near future
HT3. I think I would addicted to use omnichannel retailing to purchase optical products
HT4. I think using omnichannel retailing to purchase optical products would become natural to me
HM1. Using omnichannel retailing to buy optical products would be fun is important to me.
HM2. Using omnichannel retailing to buy optical products would be enjoyable is important to me.
HM3. Using omnichannel retailing to buy optical products would be entertaining is important to me.
FC1. I think to have the resources necessary to use omnichannel retailing to purchase optical products is important.
FC2. I think to have the knowledge necessary to use omnichannel retailing to purchase optical products is important.
FC3. I can get help from retailers when I have difficulties using omnichannel retailing to purchase optical products is important to me.
SI1. Recommendation from my close friends on using omnichannel retailing to purchase optical products is important to me.

SI2. Recommendation from those people, who could influence my behavior, on using omnichannel retailing to purchase optical products is important to me.
SI3. Recommendation from those people, whose opinions I value, on using omnichannel retailing to purchase optical products is important to me
BCC1. I think more alternative channels to choose to complete purchase optical products is important for me
BCC2. I think able to complete different tasks through different channels is important to me
BCC3. I think able to complete purchase optical products through any channels is important for me
TCS1. I would aware of the existence of all available service channels in omnichannel retailing system.
TCS2. I would aware of the differences between service attributes across different channels in omnichannel retailing system.
TCS3. I think I know how to utilize different channels in omnichannel retailing system to meet my consumption needs is important to me.
CC1. I think receiving the same response through different channels in omnichannel retailing system is important to me.
CC2. I think when I interact with one channel, my interactions with other channels in omnichannel retailing system are always taken into account is important to me.
CC3. I think the information is consistent across different channel in omnichannel retailing system is important to me.
PC1. I think the service feelings are consistent across different channels in omnichannel retailing system is important to me.
PC2. I think the service images are consistent across different channels in omnichannel retailing system is important to me.
PC3. I think the service performance are consistent across different channels in omnichannel retailing system is important to me.
PI1. I would adopt to purchase optical products through omnichannel retailing system.
PI2. I have plan to purchase optical products through omnichannel retailing system in the near future.
PI3. I think I will continually purchase optical products through omnichannel retailing system.

Appendix B

Research Proposal

Master of Business Administration

**Acceptance of Omnichannel Retailing for Optical
Products in Hong Kong: Application of UTAUT2 and
Channel Integration Quality on Purchase Intention**

Research Proposal

Student Name: CHAN GI WING CONSTANCE

Student Number: 2133979

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1. Introduction

In this chapter, the research background, questions, aims, objectives and gap will be discussed, including the definition of omnichannel retailing. In this study, optical products include eyeglasses, contact lenses and sunglasses.

1.1 Research Background

Omnichannel retailing has become a neutral business model for retailers in different industries, especially during COVID-19 affecting the retail business environment in the past few years.

People usually get confused between omnichannel and multichannel retailing system. Mainly because both of them allow retailers to provide services to customers through different channels, including offline stores and online platform.

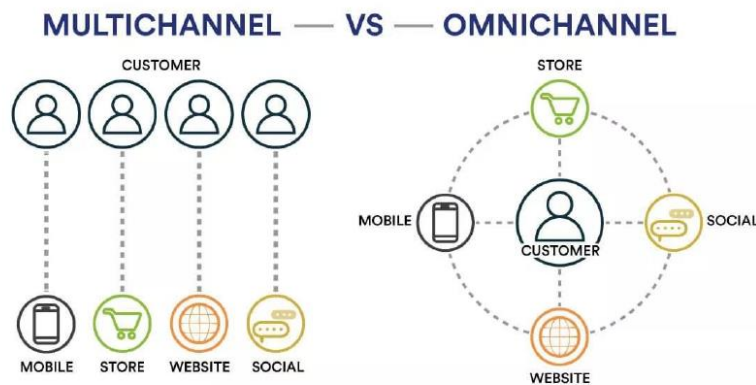


Figure 1.1: Multichannel vs Omnichannel

Source: Moengage (2022)

For omnichannel system, the strategy would be to enhance the satisfaction of customers by allowing customers to have conversations under one platform across all channels. Also, retailers could have a better understanding of their target customers' behavior, to deliver a consistent and suitable service to them (Patel, 2022).

In the past few years, people often buy different products, such as groceries, clothes, books etc, through online to avoid physical contact. People feels further natural to get services from out of the traditional channels and moved to online platform. However, some customers would like to try on the products as well, therefore the brick-and-mortar stores are still needed for retailing system (SCMP, 2019). Omnichannel is a great solution for retailers to fulfil customers' demands.

Omnichannel retailing is not new to Hong Kong market. Pricerite is the first local home furnishing retailer to deliver omnichannel retailing services to customers since 2015 (Ng, 2015). During pandemic, Hong Kong online grocery sales, through smartphone apps and websites to direct purchase from supermarkets, has been increased 73% in Q1, 2020 by comparing the same period in 2019 (LINK, 2020).

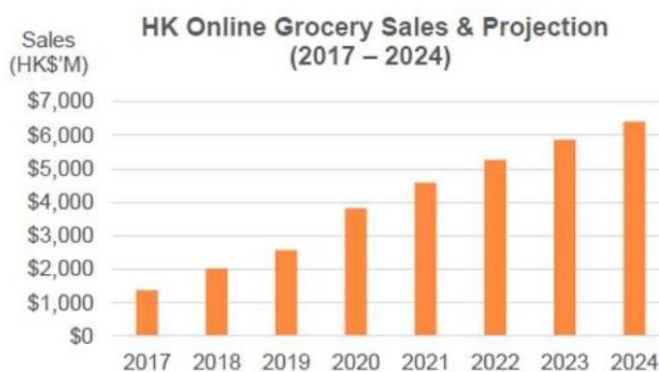


Figure 1.2: Hong Kong Online Grocery Sales & Projection (2017 – 2024)

Source: LINK (2020)

Therefore, shopping on the online platform is familiar to consumers in Hong Kong. With omnichannel retailing providing seamless shopping experience, consumers will get used to the new shopping model easily.

1.2 Research Questions

The research questions of this study are:

- Q1. Which variables would affect consumers to adopt omnichannel retailing to purchase optical products?
- Q2. Which variables have significant relationship with purchase intention of purchase optical products through omnichannel retailing?
- Q3. How should local optical retailers to provide better services with omnichannel retailing?

1.3 Research Aims and Objectives

The research aims of this study are to find out the variables that would affect consumers to adopt and significant relationship with purchase intention on omnichannel retailing to purchase optical products.

The research objectives would be:

1. Find out the variables would affect consumers to adopt to purchase optical products through omnichannel retailing in Hong Kong.
2. Find out the variables that have significant relationship with purchase intention of optical products through omnichannel retailing in Hong Kong.
3. Summarize recommendations to local optical retailers to provide better services with omnichannel retailing.

1.4 Research Gap

Although there are many studies have analyzed the acceptance of consumer purchasing different products, such as groceries, clothes, services, through omnichannel, there is lack of research on the impact of omnichannel retailing to consumers' purchase intention on optical products, especially in Hong Kong market.

1.5 Concluding Summary

Since omnichannel retailing has become natural and normal to consumers in Hong Kong, local retailers of optical industry could consider applying omnichannel for enhancing their services to customers. This study will find out the variables that would affect consumers to adopt and significant relationship with purchase intention on omnichannel retailing to purchase optical products.

2. Literature Review

In this chapter, the definitions and measurements of each variable of UTAUT2 and Channel Integration Quality would be explained. After that, the relationship in between variables also would be stated, to be combined as the theoretical basis of this study.

2.1 Performance Expectancy

Consumers would be willing to use the system if they have high performance expectancy on it. Usually, performance expectancy is the variable which would affect behavioral (Venkatesh et al.,2003) and purchase intention (Pascual-Migueletal.,2015) the most.

2.1.1 Definition of Performance Expectancy

Performance expectancy is the degree of the user believes that using the system could help him or her to get benefits (Venkatesh, Thong and Xu, 2012) and easier the process of purchase (Panatan and Di Pietro, 2012) when purchasing products.

2.1.2 Measurement of Performance Expectancy

The measurement of performance expectancy in this study would be how efficiency it would be if consumer purchase optical products through omnichannel retailing.

2.2 Effort Expectancy

If the system or program request less effort that consumer need to put in while using it, they would like to use it more often. This variable is also important to acceptance of consumers to adopt new technology and predicting purchase intention (Venkatesh, Thong and Xu, 2012).

2.2.1 Definition of Effort Expectancy

The definition of effort expectancy is the degree of easiness/ effortless with the use of the system or program (Venkatesh et al.,2003).

2.2.2 Measurement of Effort Expectancy

The measurement of effort expectancy in this study would be the level of difficult of learning how to purchase optical products through omnichannel retailing system.

2.3 Price Value

Price value is important to influence consumers' purchase intention, they are willing to purchase the products if they think the product value, including services, is higher than the cost that they spent.

2.3.1 Definition of Price Value

The definition of price value is describing consumers would feels gaining benefits or advantages while adopting the new technology system (Dodds, Monroe and Grewal, 1991). In retailing situation, price value may also include time cost that consumers have input while purchasing products (Boksberger and Melsen, 2011).

2.3.2 Measurement of Price Value

The measurement of price value in this study would be consumer thinks the price of purchasing optical products through omnichannel retailing system is reasonable and match with their values.

2.4 Habit

With success experiences, usually customers would be willing to purchase products on the system again. After repeated purchase few times with high satisfaction, it will become their habit.

2.4.1 Definition of Habit

Habit is defined as the extent of consumer would perform behaviors, such as search products or information online, automatically (Venkatesh, Thong and Xu, 2012). It likes a reflect action.

2.4.2 Measurement of Habit

The measurement of habit in this study would be the extent of consumer get used with purchasing optical products through omnichannel retailing.

2.5 Hedonic Motivation

Hedonic motivation would affect purchase influence because the consumers would have positive impression with happy shopping experience. It will also increase the satisfactions during the process.

2.5.1 Definition of Hedonic Motivation

The definition of hedonic motivation is consumer would feel pleasure from adopting new technology (Brown and Venkatesh, 2005), or it is the motivation user would enjoy with internal satisfaction by doing certain activity (Ryan and Deci, 2000).

2.5.2 Measurements of Hedonic Motivation

The measurement of hedonic motivation in this study would be the level of users' internal satisfaction while purchasing optical products through omnichannel retailing.

2.6 Facilitating Conditions

If using the systems require users to use those tools which are complicate or difficult to find, they may refuse to even try the system at all. Therefore, to attract users to adopt the new technology, simplifying the requirements would be the first factor to consider.

2.6.1 Definition of Facilitating Conditions

Facilitating conditions is defined as the level of users believe that current existing organizational and basic tools is enough to support using new technology system (Venkatesh et al.,2003).

2.6.2 Measurement of Facilitating Conditions

The measurement of facilitating conditions in this study is the extent of consumers think it's important to have enough resources to support the use of omnichannel retailing for purchasing optical products.

2.7 Social Influence

People usually would get influenced by the others' opinions and comments to decide whether adopt new technology system or purchase products.

2.7.1 Definition of Social Influence

The definition of social influence is the level of the influence to users from the others, who would connect with them, believe users should adopt new technology system (Venkatesh, Thong and Xu, 2012).

2.7.2 Measurement of Social Influence

The measurement of social influence in this study is the extent of consumers think it's important to have others comment if they should use omnichannel retailing for purchasing optical products.

2.8 Breadth of Channel service choice

As omnichannel retailing is allowing consumers to purchase products across all channels, more choices of channels for customers, allow them to have more flexibility to complete tasks through different or preferred channels (Sousa and Voss, 2006).

2.8.1 Definition of Breadth of Channel service choice

The definition of Breadth of Channel service choice is there are different channels that available for consumers to accomplish various tasks (Lee et al, 2019).

2.8.2 Measurement of Breadth of Channel service choice

The measurement of Breadth of Channel service choice is the extent of consumers think how important it is to have more alternative channels that available to choose for completing purchasing optical products through omnichannel retailing.

2.9 Transparency of Channel service

To make users feel secured to use the system, transparency of channel service is very important. On the other hand, transparency would allow consumers to understand each channel's functions and able to choose the suitable channel for themselves (Denis and Karsenty, 2004).

2.9.1 Definition of Transparency of Channel service

Transparency of Channel service is defined as awareness of consumer to available channels with understanding the service attributes of different channels (Wu and Chang, 2016).

2.9.2 Measurement of Transparency of Channel service

The measurement of Transparency of Channel service in this study is the extent of consumers think how important it is to have awareness all service channels and understand how to utilize different channels in omnichannel retailing system to meet their consumption needs.

2.10 Content Consistency

The consistency of providing information across all channels would increase users' confidence on using the system, and lower the risk of confusing them while purchasing items through omnichannel retailing system.

2.10.1 Definition of Content Consistency

Content consistency is defined as providing the same information across the available service channels, and consumer should receive the same response from different channel when they approach either one of them (Sousa and Voss, 2006).

2.10.2 Measurement of Content Consistency

The measurement of Content Consistency in this study is the extent of consumers think how important it is to receive same response and information from different channels while purchasing optical products through omnichannel retailing.

2.11 Process Consistency

Since the flexibility of choosing different channels to complete different tasks, and all channels should be effortless transiting to each other for providing seamless shopping experience to consumers, process consistency is an important variable to predict if consumers would adopt omnichannel retailing.

2.11.1 Definition of Process Consistency

The definition of process consistency is the attributes, such as images, feeling and performance, in different channels should be similar and consistent to consumer (Sun, Shen and Wang, 2016).

2.11.2 Measurement of Process Consistency

The measurement of Process Consistency in this study is the level of consumers think how important it is to have similar attributes in different channels while purchasing optical products through omnichannel retailing.

2.12 Purchase Intention

The dependent variable in this study is purchase intention, which is used to predict if consumer would adopt the new technology system and purchase products with it.

2.12.1 Definition of Purchase Intention

The definition of purchase intention could be the decision of consumers to take action to process buying items (Rezvani, S., et al., 2012).

On the other hand, online purchase intention is defined as the consumers are willing and intends to purchase items and services through online platforms (Meskaran, Ismail and Shanmugam, 2013).

2.12.2 Measurement of Purchase Intention

The measurement of Purchase Intention in this study is the extent of consumers would intent to purchase optical products through omnichannel retailing and continually this intention in the future.

2.13 Relationship between variables

The relationship between each independent variable with purchase intention will be stated in this section, for further analysis and set up hypotheses for this study.

2.13.1 Performance Expectancy - Purchase Intention

Once consumer understand the value and benefit that they would get from using omnichannel to purchase products, it will invrease their purchase intention through adopting the new system.

H1. Performance expectancy is positively related to purchase intention for optical products through omnichannel retailing.

2.13.2 Effort Expectancy - Purchase Intention

If the new system require less effort and easy for consumer to learn, they would be willing to try and adopt using omnichannel retailing.

H2. Effort expectancy is positively related to purchase intention for optical products through omnichannel retailing.

2.13.3 Price Value – Purchase Intention

Consumers would intent and feel confident to use omnichannel retailing if the price across the channels is reasonable to them.

H3. Price value is positively related to purchase intention for optical products through omnichannel retailing.

2.13.4 Habit – Purchase Intention

Once the consumers get used to the new system with success and satisfaction experiences, purchasing products through omnichannel will become as their habit.

H4. Habit is positively related to purchase intention for optical products through omnichannel retailing.

2.13.5 Hedonic Motivation – Purchase Intention

If consumers enjoy or feel fun with using omnichannel retailing, they would be willing to spend more time on it and purchase products with enjoyable shopping experience.

H5. Hedonic Motivation is positively related to purchase intention for optical products through omnichannel retailing.

2.13.6 Facilitating Conditions – Purchase Intention

Setting the minimum requirement to adopt omnichannel retailing as basic internet knowledge and essential daily objects (smartphones), consumers would like to try the new system since it is easy to achieve.

H6. Facilitating Conditions is positively related to purchase intention for optical products through omnichannel retailing.

2.13.7 Social Influence – Purchase Intention

The comments and suggestions from the social (close friend or society), would affect consumers' purchase intention.

H7. Social Influence is positively related to purchase intention for optical products through omnichannel retailing.

2.13.8 Breadth of Channel service choice – Purchase Intention

Consumers love to choose the channels to accomplish purchase freely. Therefore, broader range of channel choices available to consumers would enhance their purchase intention.

H8. Breadth of Channel service choice is positively related to purchase intention for optical products through omnichannel retailing.

2.13.9 Transparency of Channel service – Purchase Intention

Once consumers clearly understand the different service attributes of each channel, they could choose the suitable channel to complete tasks easier, which would positively affect on their purchase intention.

H9. Transparency of Channel service is positively related to purchase intention for optical products through omnichannel retailing.

2.13.10 Content consistency – Purchase Intention

Content consistency would able to reduce the confusions to the consumer by providing same response through all channels, it would affect consumers' purchase intention.

H10. Content consistency is positively related to purchase intention for optical products through omnichannel retailing.

2.13.11 Process consistency – Purchase Intention

Consumers would enjoy buying products through omnichannel if the service images, feeling and performance are consistent to them across all channels. Therefore, it would affect purchase intention as well.

H11. Process consistency is positively related to purchase intention for optical products through omnichannel retailing.

2.14 Concluding Summary

From above definitions, measurements and relationship of each variable, these will be the theoretical basis for further research to collect data for analyze.

3 Research Methodology

In this chapter, the research framework and hypotheses will be generated base on research aims and objectives and theoretical basis in previous chapters. Then questionnaire will be designed accordingly, to collect data to prove the research hypotheses are valid.

3.1 Research Framework

According the research objectives and the relationship between each variable, and generated the framework as below, independent variables are the variables of UTAUT2 and Channel Integration Quality, and dependent variable would be purchase intention.

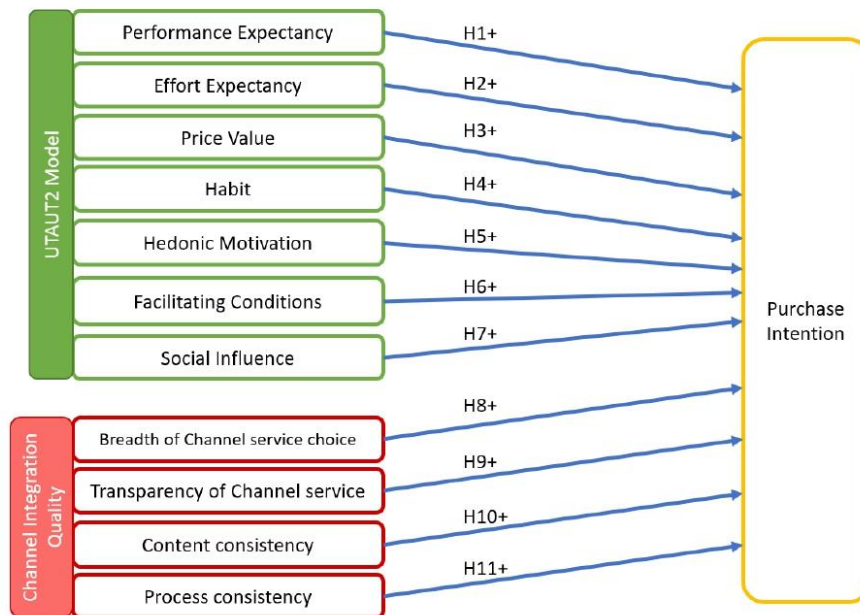


Figure 3.1: Research Framework

Construct by author

3.2 Research Target

Targeting the online questionnaire will be filled in by a sample group of Hong Kong resident, who are 15 years old or older that able to work. The reason of choosing 15 years old as boundary because Labour Department of Hong Kong defined “children” as persons ages under 15 who are not allowed to be employed (Labour Department, 2023). Since they are able to earn income, assumed that they would have the intention of purchasing products. Therefore, the research target group is set as Hong Kong resident 15 years old or older.

3.3 Type of Research and Data Collection Method

Research types has divided into two types: Qualitative and Quantitative data analysis. Qualitative research method is mainly to cross analyze data and research inferences to generated conclusion of the research (Emmel, 2013; Bernard, 2017). To collect qualitative data for this study, interviews (primary data) and literature reviews (secondary data) will be used. Quantitative research method adopts a positivist perspective to study social phenomena with statistical analysis (Brannen, 2017). To collect quantitative data for this study, online questionnaire (primary data) will be used, for finding out if the variables would affect consumers’ purchase intention on optical products through omnichannel retailing.

3.4 Sampling Method

The sample group for this questionnaire would be Hong Kong residents who aged 15 and over, the total popular is:

Year		2021			
		Population Aged 15 and Over		Population Aged 15 and Over (Excluding Foreign Domestic Helpers)	
		Number of Persons	Percentage	Number of Persons	Percentage
Sex	Marital Status				
Male	Never married	914 936	30.8	914 630	30.9
	Married	1 839 629	62.0	1 837 960	62.0
	Widowed	70 367	2.4	70 340	2.4
	Divorced	125 833	4.2	125 746	4.2
	Separated	15 503	0.5	15 429	0.5
	Total	2 966 268	100.0	2 964 105	100.0
Female	Never married	976 631	26.8	895 697	27.0
	Married	2 030 509	55.8	1 840 222	55.4
	Widowed	354 827	9.8	344 528	10.4
	Divorced	252 984	7.0	220 539	6.6
	Separated	24 013	0.7	20 152	0.6
	Total	3 638 964	100.0	3 321 138	100.0

Table 3.1: Population Aged 15 and Over in Hong Kong

Source: Census and Statistics Department (2022)

Since the size of population is too large, so the sample size of this study would be 385 to achieve 95% confident that the true value of the estimate will be within 5 percentage points of 0.5 (Aron and Aron, 1999):

$$n = [Z^2 * p * (1-p)] / e^2$$

$$n = (1.96)^2 (0.5)(0.5) / (0.05)^2 = 384.16$$

So, the sample size of this study will set as 385.

To achieve the number of sample size, the sampling will be taken through non-probabilistic sampling process with snowball sampling. First, approach the initial respondents for pilot test. Then, find new respondents from the information that they provide for further research in this study.

3.5 Questionnaire Design

The questionnaire of this study was designed according to the measurements of each variable that mentioned in chapter 2, most of the measurement standards of UTAUT2, Channel Integration Quality and purchase intention are referring to prior studies.

All measures will be phrased as six-point Likert scales, from 1 (strongly disagree) to 6 (strongly agree). The reason to choose six-point is to encourage respondents to consider carefully before answering the questions, the results would lean positively or negatively (Thompson, 2018), to avoid getting the result as neutral or undecided like five-point and seven-point Likert scales.

3.6 Data Analysis

To analyse the data that collected from questionnaire, SPSS software was used to get the Cronbach's Alpha value, plotting linear regression and run the correlation test according to the research hypotheses.

Cronbach's Alpha value (Cuieford, 1965)	$\alpha < 0.35$	Not reliable
	$0.35 \leq \alpha \leq 0.7$	Slightly reliable
	$0.7 < \alpha \leq 0.8$	Reliable
	$\alpha > 0.8$	Very reliable

Table 3.2: Cronbach's Alpha value

Construct by author

The analysis that would be done in SPSS software for this study are: Descriptive Statistics, Reliability Analysis, Correlation Test, Regression Analysis.

3.7 Concluding Summary

The research methodology that will be used in this study has been briefly explained as above, including setting 385 as sample size for online questionnaire through non-probabilistic sampling process, which would be gathered with snowballing technique.

4 Research Limitation

The limitation of this study would be the selection of respondents, for example, it is hard to find the population of persons that have experience on using omnichannel retailing system, which would be better sample groups to identify the potential to apply omnichannel in optical industry in Hong Kong. Also, the data from sample size is collected via snowballing sampling process, couldn't guarantee the respondents number when would achieve 385.

5 Direction of Further Research

Nest step, the questionnaire will be sent out to start collecting data to check the cronbach's alpha value and correlations of each construct by SPSS software, and analyse the data to prove if the hypotheses are supported by the data.

6 Timeline

The timeline of this project for further actions would be listed as below:

	June	July	August	September	October	November
Questionnaire - collecting data	Drafting	Collect Data			Annalysis with SPSS	
Dissertation		Proposal	Dissertation			Submit
Introduction		Drafting	Complete			
Literature Review		Drafting		Complete		
Research Methodology			Drafting	Complete		
Results			Drafting		Complete	
Conclusion and Recommendation				Drafting	Complete	

Table 6.1 Gantt Chart

Construct by author

Targeting to complete collecting data by the end of September and start analysing with SPSS for the results.

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