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Topic:

**A study of the factor influencing customer-purchasing-intention
in Hong Kong Online Supermarkets**

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Abstract

Online grocery shopping is getting famous due to its convenience and availability through multiple online devices, having the Pros on using online supermarkets in Hong Kong during the COVID-19. It was a critical timing to prevent from going out and reducing high crowded, less contact, and maintaining social distancing or staying in isolation. This leads to the boost from not going out, avoiding shop in pressure, to picking up slots and direct delivering to you place.

The traditional supermarkets were always there. However, people are now getting used to the new transform into new technology. In general, we see the trend of using the online supermarkets' aisles 24/7 without leaving the comfort area. Many of the researches found that the needs from customers are convenience, quality, price, and perceived risk as their purchase intention for online shopping. The objective of this study is to examine the relationships between the above factors and purchase intention in Hong Kong supermarkets. This paper will provide evidence that online shopping is built on convenience, perceived risk, price, and service quality by collecting data through survey testing using SPSS software. To implement in-depth analysis, and whether there is a positive or negative correlation between the variables supporting the hypothesis.

At least, the result will indicate the customer-purchasing-intention and are expected to benefit the retail to reach their target audience and improve towards developing their services and products. Findings will be advised to professionals in the Hong Kong supermarket retail field, including researchers, grocery website and layout designers, IT, supermarket chain marketing managers, directors or high-level executives, competitors, and specialists related to supermarket retails, and for continued growth in the upcoming years. Lastly, implications and suggestions for further research are also provided in the study.

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Declaration/Statements page

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed *Arthur Ang*..... (candidate)

Date *24th April, 2022*.....

STATEMENT 1

This work is the result of my own investigations, except where otherwise stated.

Other sources are acknowledged by footnotes giving explicit references.
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Date *24th April, 2022*.....

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Acknowledgement

1 Introduction

This chapter we will provide the background information on our research topic because of digitalization has risen and the resulting benefits for the supermarket industry in Hong Kong after COVID-19. Finally, the research aim and research objective with an explanation.

1.1 Background

The COVID-19 pandemic has been a huge test for the retail industry in Hong Kong, and it is one of the biggest social and healthcare crises in worldwide history. Most of the countries were lockdown at the beginning and flights were cancelled. Restaurants and public were closed, companies had to work from home, and their GDP were remained low except China with 6.1 percent as end of December 2020 (Silver, 2020). Projected to a global economy will have improvement in 2021 with the vaccine-powered strengthening of activities later in the end year (IMF, 2021).

The first virus was confirmed in Hong Kong on 22 January 2020, and the locals had reported a total of 5 waves during the COVID-19 milestones (Ipsos, 2020), which has deeply plagued Hong Kong's economy. Furthermore, most of our businesses had recorded negative growth, such as: retails, food and beverage, services consumption (eg. transportation, medical & healthcare), travels and tourism, etc. The border to mainland China remains lockdown, and until now it has become "new normal". With the overall value index of retail sales decreased in 2019 (-11.1%, from 1-12), 2020 (-24.3%, from 1-12), and 2021 until August has recorded +8.1 percent, which shows a stable local epidemic and improvement of labor conditions. The value of commodities in supermarkets sales has decreased by 8.0 percent in August 2021 (-10.7%, from 1-8, 2021), comparing to last year +9.7 percent (from 1-12, 2020). For online sales in August 2021 accounted 7.4 percent, compared to y-o-y had increased 16.5 percent, and the first eight months of 2021 was provisionally estimated that the value of online retail sales increased by 45.2 percent compared with the same period in 2020 (C & SD, 2021a). The figures shows that the supermarkets sales saw huge surges in grocery spending as restaurants closure in 2020. The online sales remain strong and spending more time than the outbreak period with 44 percent purchasing more groceries online (Ipsos, 2020), see next page figure 1.1.

In general, Hong Kong is recovering from the pandemic. Domestic demand expected to improve in the period ahead, fewer dine-in restrictions and eating habits in the restaurants will come back, which may reflect to the food retails slowdown. Therefore, this intends to evolve trends and demands on offline supermarkets as traditional and online as “new normal” after COVID-19.

Most are spending more time online



Figure 1.1: Most are spending more time online

Source: Ipsos, 2020

1.2 Research Problem

We had a concept to compare the two channels to explain consumers’ purchase intentions to understand the trend and predict purchase intention on online in Hong Kong supermarket.

1.2.1 Review supermarket retail in Hong Kong

Hong Kong has over 800 different sizes of supermarkets and concentrates the TOP 8 with 694 supermarkets (Statista, 2020), and only one seems without any online purchasing platform, see table 1.2.1 (a). The convenience of Hong Kong supermarkets are well-known, especially Wellcome and ParkNShop the two significant chain stores. With their great network and few 24-hour, we can find supermarkets in every core street, see next page figure 1.2.1 (b).

TOP 8 supermarket online purchase platform status

Supermarket Brand	App Purchasing	Online Purchasing	Free Delivery
Wellcome	Yes	No	>HKD 500
Parknshop	Yes	Yes	>HKD 500
U-Select	No	No	-
DCH Food Market	Yes	Yes	>HKD 500
Yata	No	Yes	>HKD 1,000
Aeon Stores (HK) Ltd.	No	Yes	>HKD 800 Non-member >HKD 500 Member
City'Super	No	Yes	>HKD 800
APITA (Uny)	No	Yes	>HKD 500

Table 1.2.1 (a): TOP 8 supermarket online purchase platform status

Source: Compiled by Author

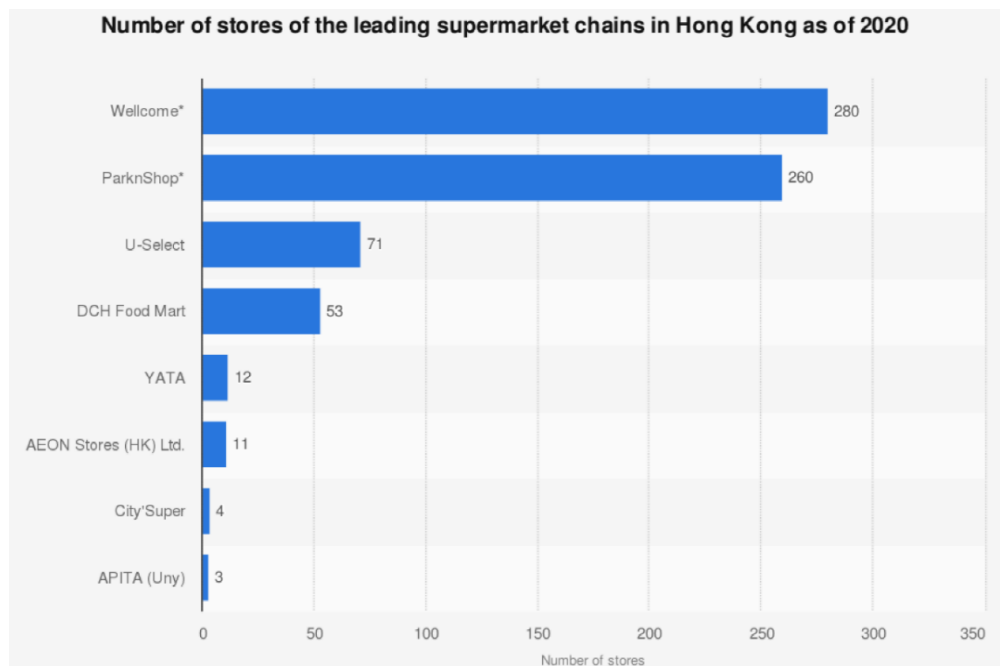


Figure 1.2.1 (b): Number of stores of the leading supermarket chains in Hong Kong as of 2020
Source: Statista, 2020a

For sales figures, the overall 2020 retail sales of supermarkets, including department stores supermarket has a value of 66,113m HKD with 10 percent increase compared to 2019 (59,365m HKD), and this may be caused by COVID-19 “StayHomeSafe” (Statista, 2020b), see figure 1.2.1 (c).



Figure 1.2.1 (c): Value of retail sales of supermarkets and supermarket sections of department stores in HK from 2010 to 2020 (million HKD)
Source: Statista, 2020b

On the other hand, COVID-19 had changed the way e-commerce and digital solutions increased the convenience of consumers purchasing online. As in Hong Kong has a figure of 60 percent in overall of 2.39m households making online purchases in 2019/20 and under foodstuff's & beverages has 167k of households spending an average of 1,295 HKD/month which covered 12 percent of all online purchasing around 2,595m HKD (C&SD, 2021). Further, the value of retail sales of supermarkets will remain steady back to normal, and believing that the online purchases will have opportunities for increase as new potential. Looking at the below figure 1.2.1 (d) of 2019 Sales value of internet retailing as a percentage of total business receipts / retail sales, it shows Hong Kong is below the world average with 8 percent differences. Also, compared to the other APAC countries, Hong Kong was the lowest among the Asian countries. China leads at 34.1 percent as first and projected from Statista, Hong Kong's user penetration covers about 73 percent of the population in 2021 and is forecasted to reach 83 percent by 2025 on the eCommerce market. An average Hong Kong user (ARPU) is looking at HKD 10,732 (USD \$1,375.89) on shopping online in 2021 (Statista, 2021).

2019 Sales value of Internet Retailing – Total business Receipt / Retail Sales

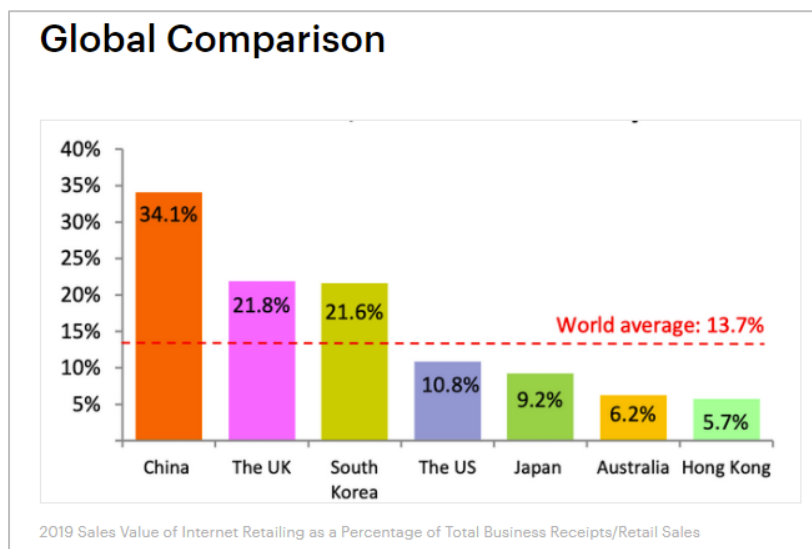


Figure 1.2.1 (d): 2019 Sales value of Internet Retailing – Total business Receipt / Retail Sales
Source: Osome, 2021

Because of the speed up from the COVID-19 and the reshaping of retail trends that have been undergoing, more requirements for quick and convenient shopping, this is essential of experience and social engagement in retailing and the digital revolution on shopping.

Furthermore, the success in the future, food retail must know the specific consumer preference using big data, and stores or online retails will play multiple roles that they are doing for today to give consumers ever-changing reasons to revisit (JLL, 2020).

1.2.2 The affect of COVID-19 for supermarket shopping how the traditional survived and trends of increasing the purchase intention on online platform

The COVID-19 affected to our lifestyles and motivations, such that our purchasing behaviours changed and become “new normal”. The impact had created a new path for e-commerce across the industry of new online group customers and influenced online shopping as new trends (Gu, 2021). This causes the physical stores to have restrictions due to the pandemics, while to increase the sales they decided to have online market. At first before the pandemics Wellcome and PakNShop dominated the online market; both Wellcome and PakNShop are covering 78 percent (Total: 540 physical stores) in Hong Kong across the territory, see above figure 1.2.1 (b) (page. 3). Both offers online shopping and delivery (in certain areas), which easy for weekly shoppers and to bulk items. While the pandemics started consumers searched everywhere for masks, alcohol handrubs, disinfection and cleaning products, etc. which significantly boosted other competitors to have online platforms to expand their business sales, see above table 1.2.1 (a) (page. 2). The new competitors were lagging behind the domestic O2O business before, and it was a great chance to raise the popularity to get the market share.

In the supermarkets, e-commerce inroad which has risen from 2 to 3 percent before the crisis to 8 to 10 percent during its peak, is expected to settle at twice the previous ‘normal’ level, 5 to 7 percent, by year’s end (Briedis, 2020). This may increase the study importance of how consumers will carry out their purchasing goods and services in the future to traditional or online and how the industry will carry over their business.

1.3 Research Objective

Hong Kong has a population of nearly 7.5 million and a high daily demand for groceries and household necessities. Many consumers had to switch from traditional shopping in physical stores to online during the pandemic. With the forced to speed up into digitally, high efficient, sustainable; we believing that it is because of the industrial hit hardest by the pandemic. Retailers need to think about the long haul, and to overcome the hit innovative and front foot

of how stores to be carrying for success is a must. Physical retails have been under pressure as it changes ever faster, and the pandemic leads retailers to the “new normal” of online purchasing.

The Census and Statistics Department reported that the percentage of consumers aged 15 and above who made at least one online purchase last year rose to 43.1 percent, up from 35.8 percent in 2018. The primary activities for Hong Kong shoppers doing online purchasing are daily necessities, clothes, and footwear, and the second most popular purchases were for food and beverages (Hong Kong Business, 2021).

Place nearby Hong Kong, the Greater Bay Area (GBA), where 59 percent use online platforms, and 23 percent believe they can do their shopping away from physical stores. Retailers in the GBA increased 55 percent using direct e-commerce, and finally, they saw a decrease in using physical stores (24%) (Hong Kong Business, 2021).

The primary purpose of this research is to understand the purchase intention of online supermarkets in Hong Kong. Based on our study we will investigate the predictors of the two differences, and understand why consumers will online or offline. Further, we will try to explain how online purchase intention are constructed, effect of the causes then to interrupted as a reason why consumers intend to purchase online, and evaluate the causes. Nevertheless, by understanding the purchase intention we can interrupt the finding to the business trends of online supermarket field in Hong Kong. Looking at the “new normal” after the pandemic, retailers are expected to benefit consumers and increase the retailer’s sales through a channel. By having those predicts to attract their target audience and their awareness about consumers needs before promoting it. Customers will then tries to purchase the products or services.

1.4 Questions of the Research

Online grocery had rapidly growth recently within the e-commerce industry. Many of the traditional supermarket companies are joining and to gain market shares in the various business model and strategies. It is an important and interesting area to look for in the coming years. Yet, believing this will continue to grow and companies in a healthier competitive environment.

As Hong Kong online platform has changed our shopping habits; delivery platform and online grocery getting popular and up to 73 percent had used online platforms to buy groceries which more than the pandemic according to are seeking convenience after the pandemic from global according to a survey by global tax consultancy KPMG. The poll is 12,334 consumers worldwide, including 1,000 in Hong Kong, between May and September last year (SCMP, 2021).

The growth for online groceries had reacted rocket during the pandemic. A survey from the US with 43 percent of shoppers reported that they shopped online in the last six months versus 24 percent two years ago, see figure 1.4. Consumers cited COVID-19 concerns of convenience (62%) and time savings (42%) as the top reasons to shift online grocery shopping towards same-day delivery. Also, 66 percent of online respondents described real-time stock inventory visibility as necessary for increasing purchasing desire (Redman, 2021). Hence, loyalty is not relatively important as the online shopping from preferred grocers shows that both years are below 25 percent, which means fewer customers are loyal to brands.

2018 vs 2020 – Comparison by the percentage of Grocery Shopping Online & Preferred Grocer Online Shopping in the US.

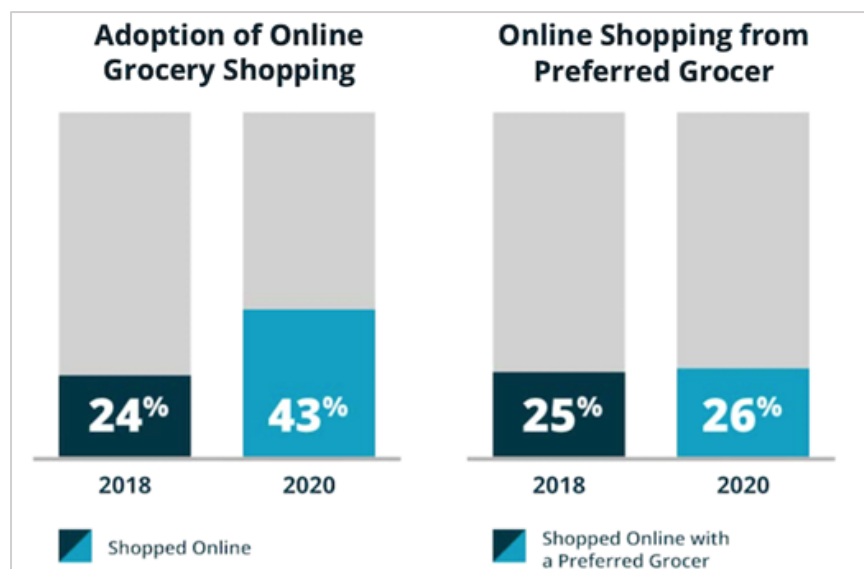


Figure 1.4: 2018 vs 2020 – Comparison by the percentage of Grocery Shopping Online & Preferred Grocer Online Shopping in the US.
Source: Redman, 2021

Furthermore, even the traditional British department store, Mark & Spencer's is doing everyday groceries not only in the physically stores but on online with wide range of chilled and frozen food, wines and also the premium fresh meat, fish, dairy, fruit and vegetables produced by M&S select farmers in British. Mark & Spencer's in Hong Kong since 1988 and now they have 27 branches including 10 "M&S Food" available on the apps and next-day delivery will be arranged for orders placed before 4 pm (Mark & Spencer HK, 2021).

Other mature international markets, such as France purchasing online and "a click-and-collect" market (90 percent of total grocery e-commerce), and the UK market mainly next-day delivery (80 percent of total grocery e-commerce) (Redman, 2021). This allows supermarket retailers to quickly build e-commerce value for their business and enhance the need to develop Hong Kong's online channels. With the samples from internationals and supports; surveying in local to understanding the trends and customers behavior, and findings from the analysis results of Hong Kong; as support to retailers of high-value information's.

1.5 Value of the Research

Nowadays, online shopping, including supermarkets, are the most popular in Hong Kong as of the COVID-19 pandemic. Many studies have investigated the determinants of customer-purchasing-intention in online supermarkets. This paper aims to explore the factors that influence the consumer intention to purchase online in Hong Kong.

Often we lack data as Hong Kong is on a small business scale compared to the Greater Bay and especially the proper growth of online supermarkets in Hong Kong. In this, we are simulation and examining customers' needs and offer a complementary approach and sustainable ideas for experts. We will provide expert advice for those professionals, including researchers, grocery website and layout designers, IT, supermarket chain marketing managers, directors or high-level executives, competitors, and specialists related to supermarket retails, and continue their growth in the upcoming year. The result is important to experts as it can help them understand what factors drive Hong Kong for online supermarket purchase intention. Additionally, the findings will assist them in generating necessary and effective actions to attract the attention towards online supermarkets through the internet. The suggestions will reinforce local competitors and help the supermarket chains operate more efficiently.

1.6 Flow of the Study

Below listed the structure of each chapter within our studies:

Chapter 1: Introduction

We will introduce the research background, objectives, and aims. We will provide a clear picture of our study outline and steps.

Chapter 2: Literature Review

This chapter will review the related literature research topic and provide evidence for each variable (V) for formulating the specific hypotheses for the next stage.

Chapter 3: Research Methodology

We will discuss the research philosophy and research methodology. Further, we will implement the data collection, sampling process and address the data analysis method in steps. Lastly, to mention the validity, reliability, and limitations of our model design.

Chapter 4: Data Description and Analysis

This chapter will show the total response rate, explain the respondents' demographic information, and observe the trends of online supermarkets in Hong Kong.

Further, will use the collected data to implement an in-depth analysis by using correlation analysis and regression analysis. The aim is to examine whether there is a positive or negative correlation between the variables, supporting our hypothesis.

Chapter 5: Conclusions and recommendations

Summarizing the findings of our results aligns with the literature review and expresses whether all our hypotheses are valid. We will suggest and recommend for future development on online supermarkets and to related field professionals.

Chapter 6: Limitations

Lastly, to describe the limitations which occurred in this study.

2 Literature Review

The purpose of the literature review is to understand the existing research and debate in our field of research. We will search, evaluate, and present our respectful choice subject areas. This is to build and help us to build knowledge in the field.

2.1 Research Focus Areas: Based on Research Questions, Explanation and Discussion of Variable (V)

Consumers now have more choices to selection of supermarket purchase platform. Since then, consumers are much convenience to choose, and their buying trends had changes by time. The online grocery shopping helps to eliminate the activity of physically visit, providing convenient to get things delivered by single “click” on mobile or electronic devices through Apps and web-surfing. Hence, no longer to stand in the lines and carrying the shopping bags. In this literature review is divided into four parts for each factor which including a brief description, importance, measurement and how we apply, the details will explain how these factors will influence online purchase intention for Hong Kong supermarket and what is the trend for consumer intention to shop onward from “new normal” to upcoming future.

Based on past research factors such as price (Toth, 2016), quality (Kotler, 2010), convenience (Jiang, Yang and Jun, 2013) and perceived risk (Forsythe et al., 2006) are reliable to the predictor of purchase intention. Customers will always expect the retailers’ to understand their needs and solve their needs in a timely manner, and always provide the necessary services and items. These factors were chosen in this study because we continue to explore the use of these factors to elicit purchase intentions from supermarket customers. Therefore, these factors are briefly explained below.

2.2 Convenience

Convenience now a day not only close to you or within your area but now customers tends to have less time to purchase goods and services, therefore consumers is looking for new alternatives to save time and online offers time-saving, for example, by offering a wide range of online stores. Since there are no large crowds and long waiting times, online stores seem to be more convenient (Jiang, Yang and Jun, 2013).

2.2.1 Definition of Convenience

In addition, search convenience is always the easiest access to product information and is considered to influent your motivations to make decision on your purchasing from online or offline (Verhoef, 2007). Online channels has given us a high degree of convenience, providing valuable information about recent offers, price discounts, and recommendations by using

search engine optimization (SEO). Customers can purchase products from websites regardless of time 24 hours, 7 days or location and benefit consumers from avoiding crowds and making shopping more convenient and safer. A short product description, comment section, can implementing simple with different payment methods will always help in convenience (Jiang, 2013).

2.2.2 Importance of Convenience

Convenience is a psychological cost, in line with Berry et al. (2000), conceptual that the service & shopping convenience can be defined as a reduction of the opportunity costs of effort and time while involve to shopping activities. Consumers' perceptions and behaviors will affect the various ways of shopping online; and it is important to provide an easy-to-use platform to help customers to choose more varieties and compare against others. Somehow, the reasons of increasing number of online shopping are commonly to all on interne purchasing which includes better prices, larger selections, saving time and convenience. The study was done by Morganosky et al (2000). More study from Jayawardhena et al. (2009) that some of the supporting had examine the purchase intention of online are motivated by convenience and a well design layout will influence the experience of consumers interact the products or services.

2.2.3 Application of Convenience

Convenience is not everything and as Grunet and Ramus (2005) suggested that online sellers of food should focus on a mix of convenience and intensive information of food products. Nielsen (1996) found convenience and ease of use were the reason that people will buy it online. Furthermore, online at low prices will attracted them to purchase but at the same time the retailers needs to make the shopping experience easy, pleasant and convenient, and that is the main reason they will do actual purchasing rather than browse at the site. Hence, offering the right service all so the important factor to customers, they will not sacrifice the prices, quality, and the arrangement from the supermarket. If they had inconvenient delivery, pickup and less information of the products they will switch to neighbourhood grocer to other web (Galante, 2013). Nevertheless, e-commerce convenient will matters customers choice and retailers should always consider will this be paying off and worth to invest for customers good experience.

2.3 Perceived Risk

Perceived risk refers to spirit of purchasing a product which associated with customers' desired satisfaction, but also the uncertain loss about the future (Lake, 2007). Samadi and Yaghoob-Nejadi (2009) further define perceived risk as consumers' expectation that the decisions they make will have a negative impact on consumers. On the other hand, perceived risk has been proven that a significant negative impact on consumers' future online shopping intentions and motivations (Forsythe et al., 2006).

2.3.1 Definition of Perceived Risk

Forsythe et al. (2006) further explained risk factors such as financial risk, product risk and time risk and their impact on consumers' perception of online shopping. The results show that compared with consumers with low online shopping frequency, consumers with high online shopping frequency have lower perceived risks and which can experience different forms of perceived risk. And sometimes you will feel like losing money for those products that do not meet your expectation which define as perceived financial risk and bad purchase decision of psychological risk (Zielke and Dobbelsstein, 2007; Salam et al., 2003).

2.3.2 Importance of Perceived Risk

When dealing with differences in information, people tend to avoid contact, and the perceived risks of the online shopping environment will bring burdens and execution pressures to people (Huang, 2000b). To et al. (2007), for example, mentioning the increase of perceived risk, the benefits associated with information availability, and the convenience of the internet for consumers to effectively will replace the fear of getting lost. The unwilling of complexity and diverse information will gradually increase and affecting the utilitarian motivations to your functionality of shopping.

Hence, the hedonic motivation of uncontrollable and uncertain sense on online purchasing in the future of online transactions (Kim et al., 2008). For example, Son and Han (2011) pointed out that controllability is a very important criterion for establishing psychological connections and worry about as negative results. It might be such as unfair pricing, invasion of privacy, transmission of inaccurate information, unauthorized transaction tracking and unauthorized

credit card use, reduce the emotional relationship with online shopping media Ties (Read et al., 2011).

2.3.3 Application of Perceived Risk

Information search is a key part of the interactive media process can also be supported from the perspective of perceived risk. The greater the risk consumers feel, the more extensive they search for information before buying (Mitchell & Boustani, 1994). This is to meet themselves in comfort; to meet their needs or psychological desire. Since internet shopping becoming commonly and it will be a novel type of perceived risk and consumers may pay more attention to search for information when using the online (Eastlick, 1996).

Some studies had consolidated a result of the online shopping medium will affect by search intention on to purchase intention, such as increasing the uncertainty associated with the shopping process, reducing the evaluation of service quality, reducing consumers' ability to control online supplier behavior, and prevent user interaction and decrease in interest (Bridges and Florsheim, 2008; Hoffman et al., 1999). Since perceived risk depends on the consumer's subjective uncertainty about the results and adverse consequences, the degree of satisfaction with the actual purchase experience depends on the sense of risk. When consumers perceive risks are evaluating their products or services (i.e. the decision-making process), the uncertainty encountered by online media may prevent them from foreseeing actions in advance and lead to unwillingness to terminate online transactions and actual purchases initiated by the search process (Kim et al., 2008). And according to Rao et al. (2007), that although the pre-purchase search activity is essentially a transparent process, it requires all parties to rely on each other's goodwill and efforts to mutually benefit from the transaction, but the perceived risk limits consumers' freedom of action. Track their purchase goals and expected results.

2.4 Pricing

Pricing is an important factor that customers will consider and decide to buy their product. For the past few years, due to the boost of online platforms they had led the competition against the physical retailers (Toth, 2016).

2.4.1 Definition of Pricing

Many studies had determined that pricing is significantly related to customer satisfaction and negative perceptions of pricing make customers feel dissatisfied and disloyal (Bucko, 2018). According to researchers, more than half of online customers had changed retailers because of pricing. Pricing has a special impact on the satisfaction of experienced online customers (Keaveney, 1995; Jiraidlok, 2014). Hence, when customers are confident for the transaction, then their demand increased and benefits the sales (Hung, 2020).

Comparing with traditional physical stores, many customers expect online stores provide products and services at a lower price. This is because physical stores need to consider higher rental cost; employee wages and operating expenses, and less chance to have discount due to less profit margins and more profitability is needed to maintain survive.

2.4.2 Importance of Pricing

Retailers use marketing mix strategy to compete and attract consumers with attractive products, competitive prices, suitable venues, services and promotions. It was found to be an important level of customer satisfaction in retail stores. Price in retail trade has become a key element of the multi-pack, by using the different combination of mixes, depending on the type of consumers they try and servicing those to get maximize profits from customers (Marinescu, 2010) and the price is also a function serves as quality indicator.

The complexity and the grow of business development had impacted the final price of the products recently, especially during the COVID-19. At the beginning of the early 2020, the pandemic taken direct affect on supply, demand and daily operations of the retail sectors. The overall impact was large, example on personal cares, household goods and protective masks are making aggressive price from dairy goods to personal cares as the demand suddenly increased to less medical supplies, and this was in the early 2020 putting upward pressure on prices. Hence, no doubt that prices will include the delivery charges into the products purchased as normally customers will not be willing to pay for the delivery fees. It is hard to be changed as this is also the cost and retail will use all kinds of marketing mix promotion and a statement from PriceWaterHouseCooper in their research and survey that nearly half (46%) of the

American internet users cited the delivery fees on their products purchase were hidden in their purchase items (Yan, 2006).

2.4.3 Application of Pricing

Retailers usually use various pricing and promotional policies to attract new customers and increase customer loyalty. It turns out the pricing strategy is a potential research area for marketers; that is the reasons why consumers choose stores and platform are well known. Price choosing should into account consumer preferences and the current and expected actions of competitors, and this is to ensure consumer loyalty and repurchasing (Marinescu, 2010).

Household goods are high buying frequency which is a tight connection with the customers. These can assign as long period goods which are the important element for retailers. They are mainly at a constant price but in the conditions of a powerful competition. It is tough to support and sometimes must give up some services offered at the offline stores, and benefits on online with low-price (Keaveney, 1995; Marinescu, 2010; Toth, 2016). Furthermore, to Marinescu 2010, variable price to the sales promotion in short periods of time to benefits approach of different sectors of consumers; consumers attracted with a grown sensitivity to price; and increasing the flow and consumer's loyalty strengthening.

The above supports will show the attraction to customers will only be having products on low-price, skipping out the necessities on operating costs to sell it online for better pricing and preforming sales promotions in short period of time to increase the sensitivities to customers in parallel to get their loyalty. This is valid to all customers in any regions to have a price differencing on online and offline shopping as a through-cycle view of customer considering on their strengthen value. And finally, Clarke et al. (2000), the customers will prefer not to pay any extra for the delivery and large proportion of them consider delivery charges as a major deterrent of online grocery shopping.

2.5 Service Quality

Kotler et al. (2000a) explained quality is the sum of the characteristics and characteristics of a product/service which to meet their explicit/implicit requirements. Quality is a grade of excellence on a service or a product and able to satisfy customers' needs (Qualitydigest.com, 2009).

2.5.1 Definition of Service Quality

For example, especially for online retailing, the quality of e-services is one of the key factors to maintain the success of e-commerce, because consumers can compare product features and prices more easily than offline retail environments (Santos, 2003). In addition, a higher level of service quality will bring the organization's competitive advantage, increase consumers' willingness to purchase products online (Santos, 2003; Gao et al., 2015). Ahmed et al. (2017) shows that good service quality will increase consumers' willingness to buy on the desired website. In addition, to the study emphasizes that high service quality can directly affect consumers' choices of revisiting online stores (Ahmed et al., 2017). Lastly, the quality of service can be achieved by minimizing the time cost associated with the service (Hui et al. 1998).

2.5.2 Importance of Service Quality

Now a days the market is competitive, companies are always offering high level of products to create the satisfaction for customers, and they will receive the loyalty and repurchasing which allows growth in the companies. In general, the standard requirement of quality always surrounds from customer expectation and loyalty, business reputation and market competition (Alton, 2016).

According to researchers, Eduardo et al. (2008) quality can be a good starting point to satisfy customers and create customer loyalty. Selnes et al. (1993) customer loyalty expresses an intention to support a product, a company and which is by their shop experience with positive things. Even some customers will do recommendation to others as supporting and this is a high degree of loyalty is reflected. Kotler and Keller (2006b), believing that better product quality helps to maintain high level of customer satisfaction which may encourage for next purchasing. These studies showed that quality benefits builds a long-term customer base, and creating values for a company of customer loyalty (Gronholdt, 2000). Furthermore, some research on customer satisfaction and loyalty are focusing on the brand rather than the product. It is because the products had merged to company brand and guarantee they are in quality assurance (Eduardo, 2008).

2.5.3 Application of Service Quality

Huang et al. (2009a) shows two forms of quality: objective and subjective (Huang, 2009a). Objective quality refers to actual quality and the subjective refers to consumers' perception of quality (Kotler, 2000b). However, in our research we will mainly consider on service and the quality in here a quality retailer shall give the customer trust and satisfaction and customers are more willing and intend to do purchasing; therefore, customer loyalty will gradually build a group of solid customers and believed that to increase the opportunities for customers to shop again, supporting the company and develop loyal behaviors; and this applied as reliability to quality. Hence, will set the importance effect as perceived quality and risk. Mieres et al. (2006) reported that more familiarity will reduce the reliance on external quality and improve perceived to one single platform quality rely.

2.6 Customer-Purchasing-Intention

Customer-purchasing-intention refers to their desire to buy products from a particular shop. Sometimes purchase intention is used to describe customer loyalty (Juhl et.al. 2002); and some attempted to purchase a product or service (Dodds et al., 1991).

2.6.1 Definition of Customer-Purchasing-Intention

Consumer-purchase-intention from a retail store is influenced by several external factors like product, brand, retailer, timing (Kotler, 2000). As shopping is often a hedonic (i.e., pleasure) shopping experience (Babin et al., 1994), the intentions might be directed towards actual purchasing products or services from the retailers (Luo et al., 2011). Consumers' purchase intentions arise after consumers perceive utility and value of a product or service (Dodds et al., 1991). Purchase intentions influences purchase behavior in terms of end result (Luo et al., 2011; Morrison, 1979). Further, it also influenced by the perceptions of quality and price. Price is clearly a salient feature of consumers' decision. It is a consumer's attitude with specific purchasing behavior and degree of willingness towards pay.

Eroglu et al. (2001) pointed out that, according to the stimulus-organism-response paradigm (SOR), consumer response refers to approaching or avoiding behaviors, which are the result of emotional and cognitive states. Eroglu et al. (2003), also mentioned that approaching behaviors include positive reactions, such as purchase intention and patronage intention.

2.6.2 Importance of Customer-Purchasing-Intention

Wu et al. (2011), following other researchers, the stated purchase intention represents the possibility that consumers plan or are willing to purchase a certain product or service in the future. Dodds et al. (1991) concluded that an increase in purchase intention means an increase in the possibility of purchase. Khatibi et al. (2006), considered various differences between online and physical; the opportunity for online shopping is that can buy anytime, anywhere (24 hours / 7 days a day) but unlike the traditional, consumers can enjoy window shopping and internet can enduring without the pressure of buying.

Similarly, to bad purchase decision may also involve to psychological according Ueltschy et al. (2004). Example, because of no physical contact, consumers are most likely to experience these risks when shopping online. However, due to COVID-19, consumers will feel increased

risk when shopping in physical stores due to the spread of infect diseases and increase the possibility of buying online to reduce the contact risk during COVID-19 (Gao et al., 2020). Social influence refers to the actions, feelings, thoughts, attitudes, or behaviors that individuals change through interactions with other individuals or groups. In the case of purchasing decisions do have the influence from social values which we needed to be respected and achieve an ideal social status (Delre et al., 2008).

Other case, If the price is high, customers may expect high quality, or causes a "feeling of being ripped off" (Conway & Andaleeb, 2006) which prices plays an important role in shaping consumers' perceptions of products and services. Furthermore, many studies on the traditional factors that influence customers' purchasing decisions, only focuses on the brand image, social influence, social economy, and product quality of supermarket sales but not perceived risks.

2.6.3 Application of Customer-Purchasing-Intention

Online platforms need to adapt to the needs of consumers and recognize the daily troubles that consumers face. If online platforms believe, assuming consumers will compromise on their needs is a far-fetched idea then the platform should make it easy and convenient users to use online platforms (Hansen, 2005).

It is a long way for fully penetrate the market. As the importance of online always had a concern on convenient, quality, prices and perceived risks. Traditional are always as an alternative in selection which will not getting rid of and new ideas are always needs to be greater than the original. To build the awareness online shopping platforms needed to listen to the audience. In the process, there is competition among traditional versus online as they are competing for the same customers (Kotler, 2006b). Some of the low prices and wide variety, such as: hypermarkets or discount chain shops (with groceries and frozen foods) are quickly gaining popularity and it seems to pose a threat to online supermarkets. Comparing to these stores, online provide more values through the use of advanced information technology, systematic logistics flow, and other powerful specials. Furthermore, online retails are playing a role in both the high-end (luxury and quality) and low-end (discount pricing) markets which enhance buyer's to make perceived risk of purchasing and those factors are used as determinants of purchase intention. In theory only, the psychological filter out customers for right choice.

2.7 Summary

The research framework of this dissertation is a study of online factors that influence purchase intention of Hong Kong supermarket after the COVID-19 and onwards. The research evaluates customers' purchasing trends and based on the researchers' prediction on key factors. We have created a theoretical model using their key factors for our study. The proposed factors are convenience, perceived risk, price, and quality by converting them into measurable variables to form a mathematical analysis as testable hypotheses. Hence, prototype research model was then developed as below ordering of variables, and hypothesis to be in a relationship from a synthesis of online consumer purchase intention as study, see next page figure 2.7.

The model is contributed by online consumer purchase intention literature and gathering the different factors into our study framework. Finally, according to most of the researches, we have collected the most essential key factors to propose the below hypothesis:

H1: There is a significant relationship between convenience (CE) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.

H2: There is a significant relationship between perceived risk (PR) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.

H3: There is a significant relationship between pricing (PG) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.

H4: There is a significant relationship between service quality (SQ) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.

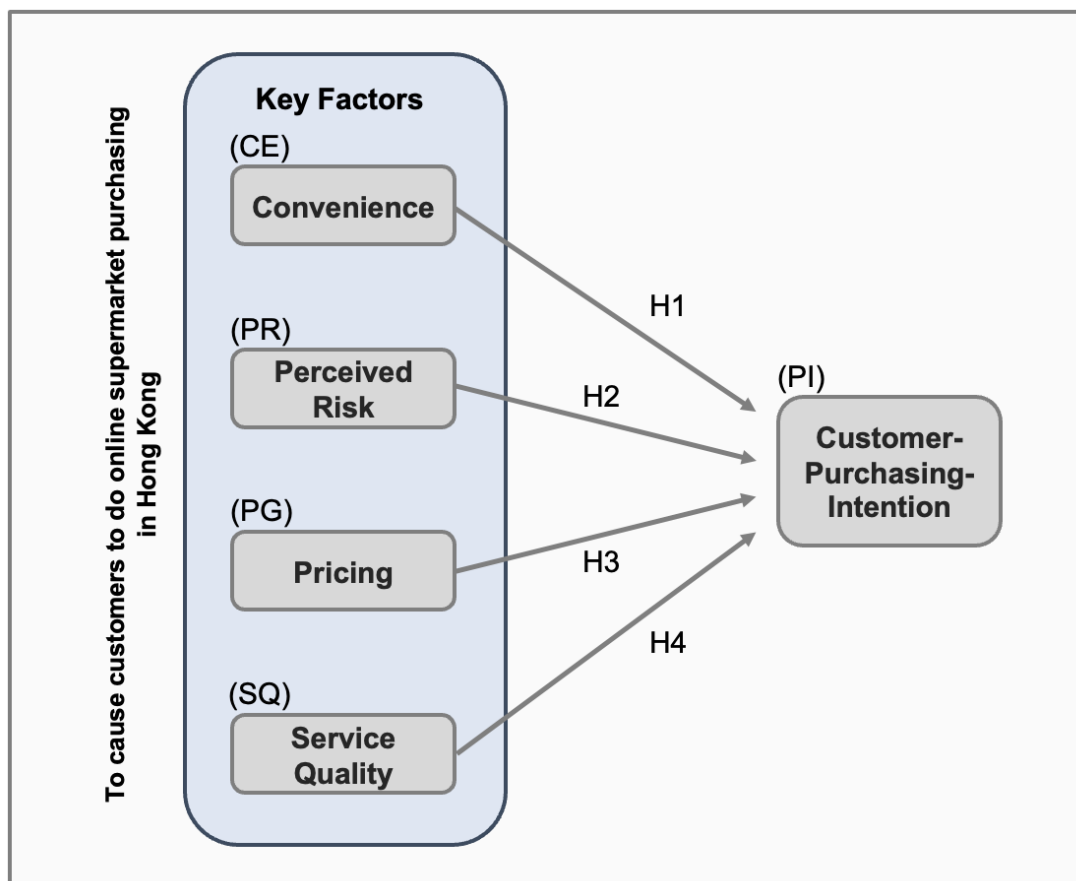


Figure 2.7: Model of factors influence online purchase intention of Hong Kong supermarkets
Author: Compiled by Author

3 Methodology

In this chapter, we will explain our research methodology. Further, to discuss the development and direction, including the relationships between the five variables in the research framework and the research design (e.g., questionnaire design, data collection, research objective, data source, analysis method, research timeframe, etc.).

3.1 Research Method

Research methods had divided into two types, Qualitative and Quantitative research methods. The qualitative research method is a process that tends to use interviews, observations and literature methods to collect data and conduct research based on subjective understanding and qualitative analysis (Bhandari, 2020).

And quantitative research method is a research process that uses statistical survey methods or experimental methods to formulate objects, standardize problems, establish research hypotheses, collect accurate data, and then conduct statistical analysis and testing. Based on obtaining people's thoughts, feelings, etc., understanding their attitudes, beliefs, behaviours, etc., through sorting, objective, and accurate research methods (Bhat, 2018).

The difference between the two is in the theoretical basis, research analysis, and the relationship between the interviewees, and there are differences in research methods and research purposes. Nevertheless, the two are also related. It is generally believed that qualitative research is the basic premise of quantitative research, and quantitative research is qualitative research (Table 3.1, see below).

	Quantitative Research Method	Qualitative Research Method
Definition	Data that can be numerically analyzed and quantified into hard facts.	Non-numerical data that describes qualities, opinions or feelings.
Collecting Method	Online, in-person, and phone interviews or surveys with closed-ended questions, controlled experiments, and more.	Open-ended survey questions, unstructured interviews, focus groups, observation, and more.
Best for	Conducting statistical analysis and conclusions through large-scale of studies.	Formulating hypotheses and gathering detailed information from smaller groups.
Analysis	Statistical analysis through charts, tables, and statistical programs.	Manual analysis through grouping of common themes and other methods.

Table 3.1: Quantitative verse Qualitative research method
Source: www.geopoll.com (Elliott, 2020)

In this section, we will apply the quantitative method and do surveys by collecting the primary data. The advantages of using the quantitative method are mainly closed questions, able to perform quick and collect large random samples. However, they do have a drawback in unnatural environments like seasonal results (Bhat, 2018). Therefore, we will need to structure our questions with less monthly based questions and perform a pilot run before sending our online survey through the internet for data collecting. The results will be numerical by looking at the relationships using statistical techniques and understanding to predict changes accordingly.

All our information or dataset are collected from questionnaires and completed by non-probability simple random sampling as less complex, less time-consuming and cost less. Dataset will be revised and adjusted if necessary to required levels that reflect each scale on convenience, perceived risk, pricing, and service quality as variables to construct the customer-purchasing-intention.

3.2 Research Framework

The framework of this research as next page shown, figure 3.2 (a). It is clear to deliver our plan's structure and formulate relevant research questions. This framework contains the critical concept of our research project, followed by reviewing literature about purchasing intention and developing questionnaires based on our factors on convenience, perceived risk, pricing, service quality, and respondents' demographics.

Using quantitative analysis to status the customer-purchasing-intention, determine the significant factors, and establish a customer-purchasing-intention model accordingly (figure 3.2 (b), see next page).

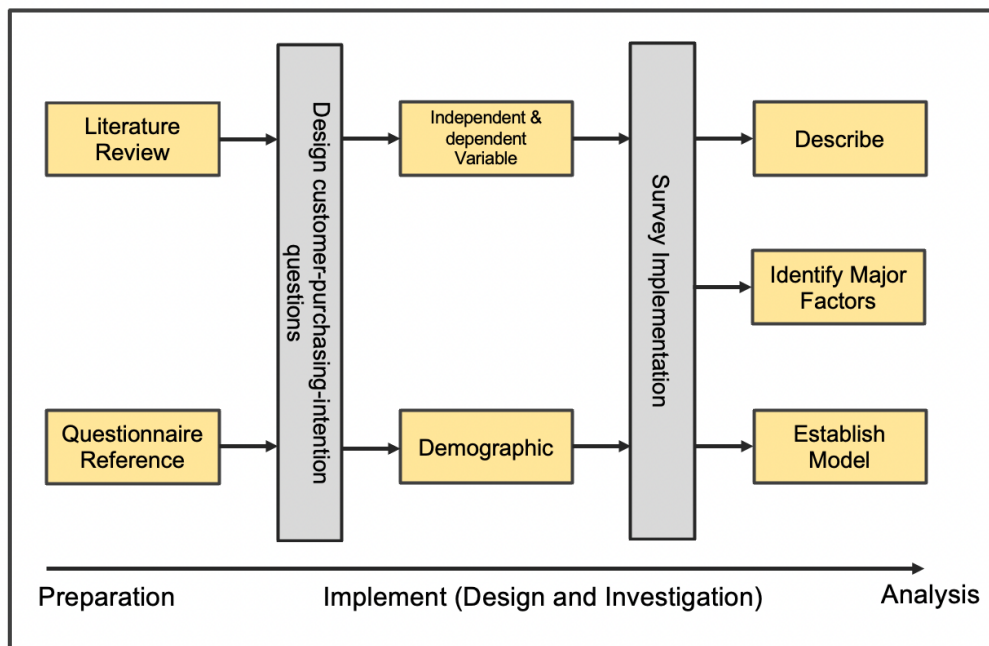


Figure 3.2 (a): Research framework
Author: Compiled by Author

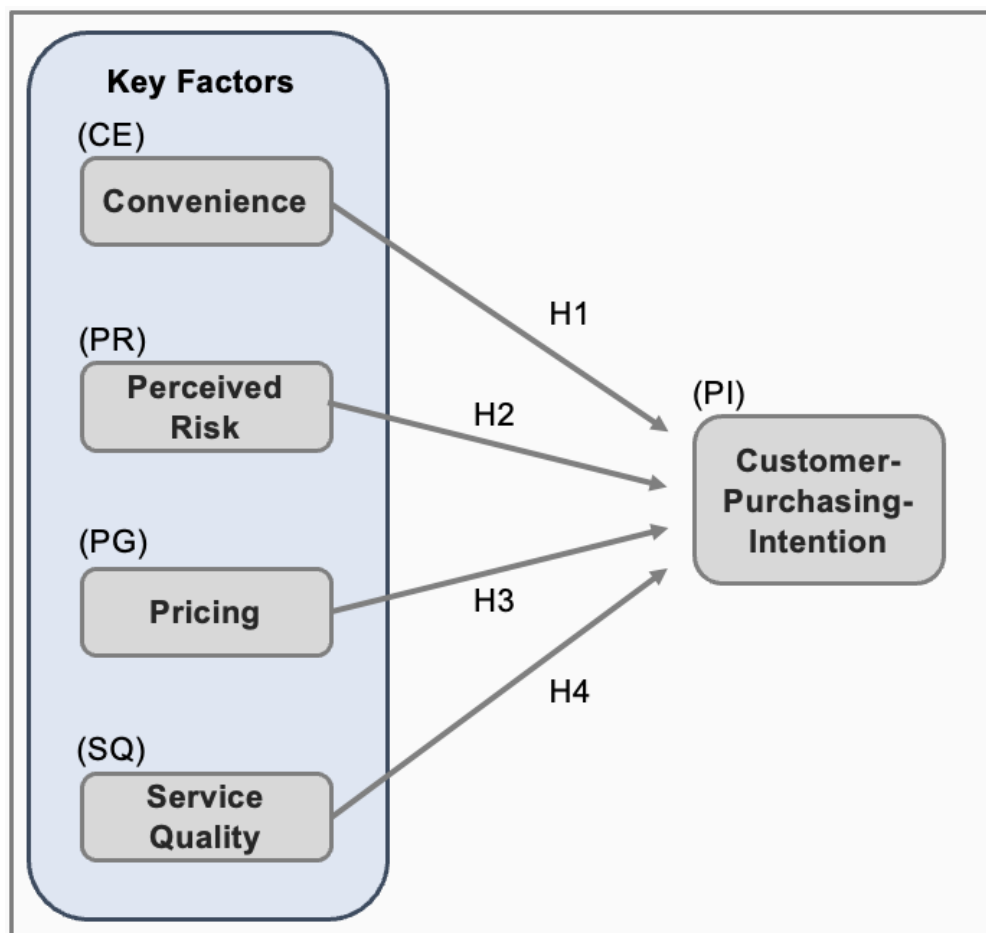


Figure 3.2 (b): Research model
Author: Compiled by Author

3.3 Research Hypotheses

The below hypotheses addressed in this study are:

H1: There is a significant relationship between convenience (CE) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.

H2: There is a significant relationship between perceived risk (PR) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.

H3: There is a significant relationship between pricing (PG) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.

H4: There is a significant relationship between service quality (SQ) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.

3.4 Research Design

Research design is a framework of research methods and techniques which we will be using and allowing to suit the subject matter and set up the studies for success. This section will explain the types of designs for research, including data collection, measurement, and analysis. We will minimize bias levels in the data collection method to validity and explain the result in the least amount of error in the study.

3.4.1 Coding of Variables

Each variable is coded and grouped by natures.

Independent Variables (IV):

CE – Convenience

PR – Perceived Risk

PG – Pricing

SQ – Service Quality

Dependent Variables (DV):

PI – Customer-Purchasing-Intention

Coding and operationalisation of 5 variables include sourcing information as below table.

Variable	Nature	Operationalisation	Source
CE - Convenience	IV	Section 2, Questions CE1 - 5	Gozukara, E. et. al. (2014), Siu, N.Y.-M. et. al. (2001), Shim, S. (2001)
PR - Perceived Risk	IV	Section 2, Questions PR1 - 3	Gozukara, E. et. al. (2014), Habib, S. et. al. (2021), Kumar, P. (2019)
PG - Pricing	IV	Section 2, Questions PG1 - 3	Galante, N. et. al. (2013), IBIMA Publishing (2018), Jung, I.M. et. al. (2022)
SQ - Service Quality	IV	Section 2, Questions SQ1 - 5	Gozukara, E. et. al. (2014), Habib, S. et. al. (2021), Kumar, P. (2019), Siu, N.Y.-M. et. al. (2001)
PI - Customer-Purchasing-Intention	DV	Section 2, Questions PI1 - 4	Gozukara, E. et. al. (2014), Habib, S. et. al. (2021), Jung, I.M. et. al. (2022)

Table 3.4.1: Coding of 5 Variables and source of questionnaires

Author: Compiled by Author

This study is to investigate consumers' purchase evaluations of shopping online supermarkets. We will develop a conceptual model that explains customer-purchase-intention. Based on the literature review, we will propose that the customer-purchase-intention are based on the perception of convenience, perceived risk, pricing and service quality. The conceptual model will be tested using SPSS software by collecting data through a survey. First, determine the relative importance of purchase intention predictors by investigating direct and indirect effects. Then, based on conceptual support, assuming that certain factors play a role in any situation.

3.4.2 Questionnaire Design

A questionnaire is a research tool composed of standardised questions to collect statistically valid information on a topic from one or more interviewees. The questionnaire contains standardised questions answered face-to-face, by phone, mail, or even online. Our measure is related to customer-purchasing-intention and will ask the respondents to agree or disagree on a five-point Likert scale for the impact of each statement on customer-purchasing-intention, and deliver the questions through messaging apps.

To avoid confusion, a consistent response format using a five-point scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) in respect to the level of customer-purchasing-intention for Hong Kong supermarkets. The quantitative data were collected through multi-item scales, and the survey had a total of 28 questions divided into two sections. The first section is demographic in 8 identification data, such as gender, age, educational level, and customer purchasing habit. The second section of the survey has 20 questions on convenience, perceived risk, pricing, service quality and customer-purchasing-intention.

Finally, we will adjust to the required levels and ensure the variables of convenience, perceived risk, pricing, and service quality to construct the customer-purchasing-intention level.

3.4.3 Population

Our target is those over 18 years old men and women living in Hong Kong. In the middle of 2021, Hong Kong had a population of over 7,394.7 thousand. Those over 18 had around 6,390.9 thousand, which covers 86.4 percent of Hong Kong's total population (C & C&SD, 2021b). Choosing this group is that the aged over 18 have adult activities and become mature and responsible. They must be at least 18 years of age, have basic use requirements and have a savings account in their name. This group is well enough to use the electronic payment to do grocery shopping online and offline in a supermarket, such as credit & debit cards, Alipay, etc.

3.4.4 Sampling Method

By using snowball sampling, one of the non-probability random sampling (Etikan, 2017) and send out using network through mobile apps. Another name for snowball sampling is chain referral sampling. It is very popular for research studies, and the population is unknown. The methodology is like a snowball and increases in size until enough data is analysed, based on referrals, and randomly collected. The advantage of using snowball sampling is that it is quick to find samples, cost-effective, no hesitation, but the disadvantage will be lack of cooperation and risk of bias and margin of errors which we will apply to revise the data and to set a limit to our margin of errors as to ensure the data are precise.

We will identify potential groups and subjects as above, and the sampling size will base on the sample size formula. The equation can be derived by using population size, the critical value of the normal distribution, sample proportion and margin of error (Thakur, 2021).

3.4.5 Sampling Size

The sample size is frequently used in statistics and research. Upon we will need to define the population sample size, we will use a critical value at 95 percent (Z-score) from our normal distribution at a confidence level of 1.96. Our margin of error will be set below 10 percent as a higher indicates a high chance that the result may not accurately reflect the whole population. The margin of error is a statistic that expresses the amount of random sampling error in a survey result. The larger the margin of error, the lower the confidence that the poll results reflect the results of the entire population. This formula is generally used in healthcare, education, market research, etc. (Taherdoost, 2017); see below figure 3.4.5.

$$\text{Sample size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

N = Population size, e = Margin of error, z = Z-score

Figure 3.4.5: Sample size formula

Source: SurveyMonkey, 2021

Most survey researchers' acceptable margin of error typically falls between 4% and 8% at the 95% confidence level (Pollish, 2022). It is affected by sample size, population size, and percentage. Our population is aged over 18, which had around 6,390.9 thousand, and we will set the confidence level as 95 percent and margin of error as 8 percent, which is below 10 percent and precise.

3.5 Explain relevant method for data analysis

The most common source of quantitative data is doing a survey. The survey is a method aimed at the research object and understanding the individual situation. The design of the questions is to be carried out by a standardised process, systematic analysis, and extrapolate research results. We will use a questionnaire survey on the internet to collect response data. It will be our primary data. The purpose is to understand and analyse current customer-purchasing-intention on convenience, perceived risk, pricing, and the service quality for Hong Kong supermarkets.

The online survey will be set up and collected by the "Google Questionnaire Survey Form" platform then sent out the questionnaires through messaging apps. The questions are compulsory, and all respondents must need to answer to complete the survey. The platform will help make charts and use them for research purposes in Chapter 4. We will apply descriptive statistics from a statistical software called Statistics Package for the Social Science (SPSS) for analysis use. The SPSS analytical functions adopted a reliability test (Cronbach's Alpha), regression analysis which includes simple and multiple regression.

Multiple linear regression between independent variables will be carried out to see if there are any significant influences to the dependent variable of customer-purchasing-intention. This study looks for four independent variables (Convenience, Perceived Risk, Pricing and Service Quality) and one dependent variable after measuring and having a degree of positive or negative relationships.

Hence, we will perform a reliability test using Cronbach's Alpha. It is the most common measurement of internal consistency (explorable.com, 2019). It is used when having multiple Likert questions in a survey or questionnaire to determine if the scale is reliable. Its result of 0.70 or above is considered "acceptable" in most social science research situations, 0.80 or above is better, and 0.90 and above is best (Bujang, 2018). Further, after running the questions in "SPSS statistics", if the index is above 0.7, it is proper and reliable to survey as appropriate and acceptable.

3.6 Ethical Consideration

This questionnaire was distributed to respondents with a declaration explanation before starting the survey. We consider our target population, over 18 years old, living in Hong Kong.

The purpose of this research is for the benefit of providing expert advice for those professionals, including researchers, grocery website and layout designers, IT, supermarket chain marketing managers, directors or high-level executives, competitors, and specialists related to supermarket retails, and continue their growth in the upcoming year. The questionnaire is more accessible for respondents to accept the research and be willing to investigate.

Almost every study will have some limitations, and one of the limitations we may face we may face is the quality of answers, and the response rate for the online survey is hard to control as the distraction effect mentioned by Wright (2006) might happen. Further, it is hard for researchers in person to monitor all respondents filling online simultaneously. Therefore, any misunderstandings or discretionary answering on questions cannot be noticed until inputting the data. To minimise the defect, we had an introduction notice with the information of respondents' expectations before the survey start.

3.7 Pre-test

The purpose of the pre-test is to ensure the questionnaire has a good perception and reliability. The respondents are comfortable with the questions and feel willing to answer the questions without hesitation. There are opportunities for betterment, such as to keep the questions simple with consistent written and easy to understand, which can complete within 3 minutes. There was no complaint after the read proves, and we had sent 30 surveys, and 25 surveys returned, in a total of 83.3 percent received, see below table 3.7.

Total Questionnaire Distributed	Total Return	Return Rate
30	25	83.3%

Table 3.7: Statistics of respondents and return rate
Author: Compiled by Author

3.8 Research Workflow and Schedule

3.8.1 Research Workflow

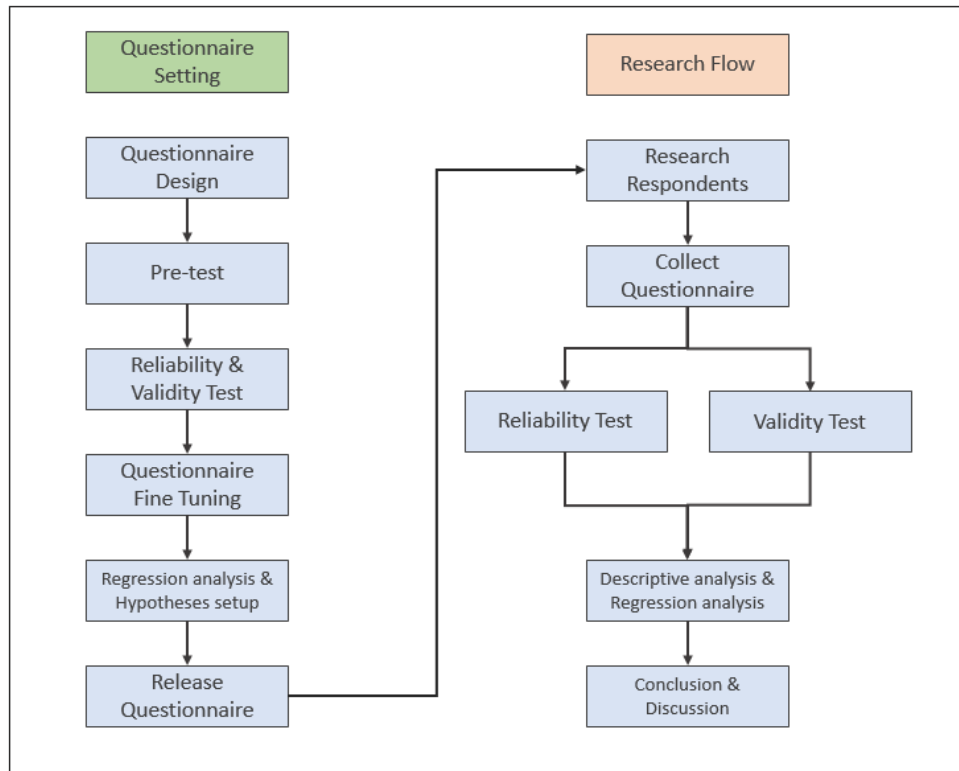


Figure 3.8.1: Research workflow.
Author: Compiled by Author

3.8.2 Research Schedule

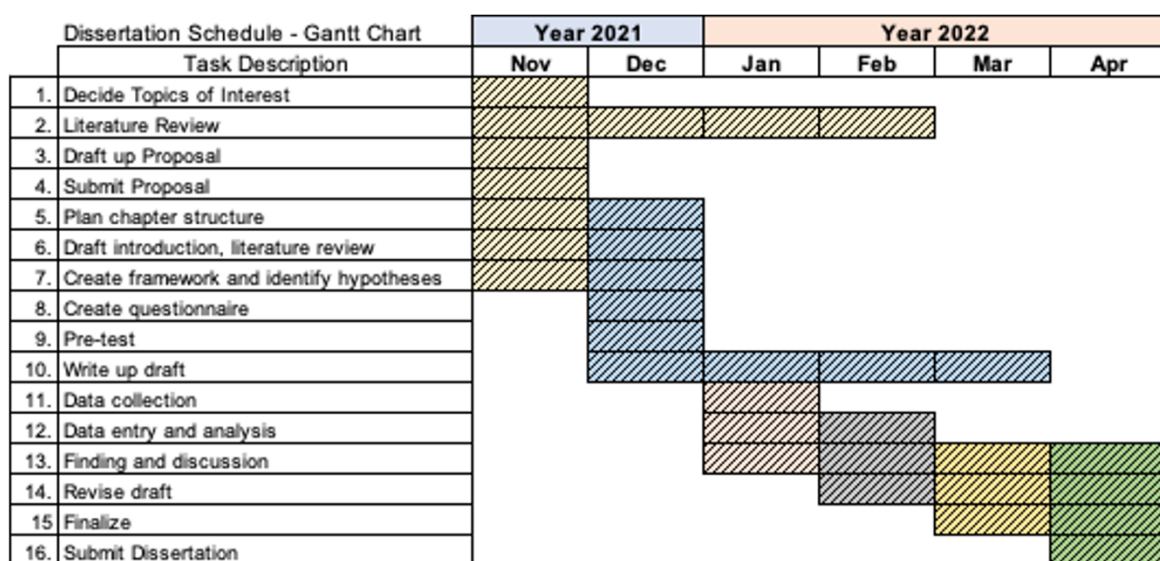


Figure 3.8.2: Research schedule – Gantt Chart
Author: Compiled by Author

4 Explanation of Data Analysis

This chapter will include several subsections and analyse the results of the questionnaire. The first part of the survey outlines the sample characteristics, such as gender, age, household size, educational level, and preferred shopping mode. Then the factors influencing online shopping decisions and the ranking of the factors. Finally, will be the shopping experience what customers they prefer from online shopping. The data will determine the research's validity, reliability, and limitations.

4.1 Response Rate Analysis

We had distributed 261 questionnaires through messaging app and received 230 surveys with a return rate of 88.1 percent, see below table 4.1.

Total Questionnaire Distributed	Total Return	Return Rate
261	230	88.1%

Table 4.1: Statistics of respondents and return rate
Author: Compiled by Author

The whole survey process proceeded using google forms; by creating questions and formulating in their platform, we can easily use their online tools to collect data, get fast and reliable charts in statistic format. Their interface is straightforward and stores the feedback with Google spreadsheets to view the data for analysing use.

We recorded the demographics in section one and questions with feedback in section two. We had done quality check filtering as some of the respondents chose the same option in a likert scale, which will spot insufficient data. In conclusion, the overall response return rate and quality are satisfaction which met the sampling requirement.

4.2 Descriptive Statistics

In section one of the questionnaire, we had eight questions for descriptive statistics: age, gender, household size, purchase frequency, and educational level.

The demographic data had 230 respondents, and 72 percent are females and 28 percent are males. As mentioned before, the study is conducted in Hong Kong for a study of the factor influencing customer-purchasing-intention in Hong Kong online supermarkets. From the group, the total respondents are 100 percent, and the survey result shows a high number of females are doing most of the supermarket shopping than males, see below figure 4.2 (a).

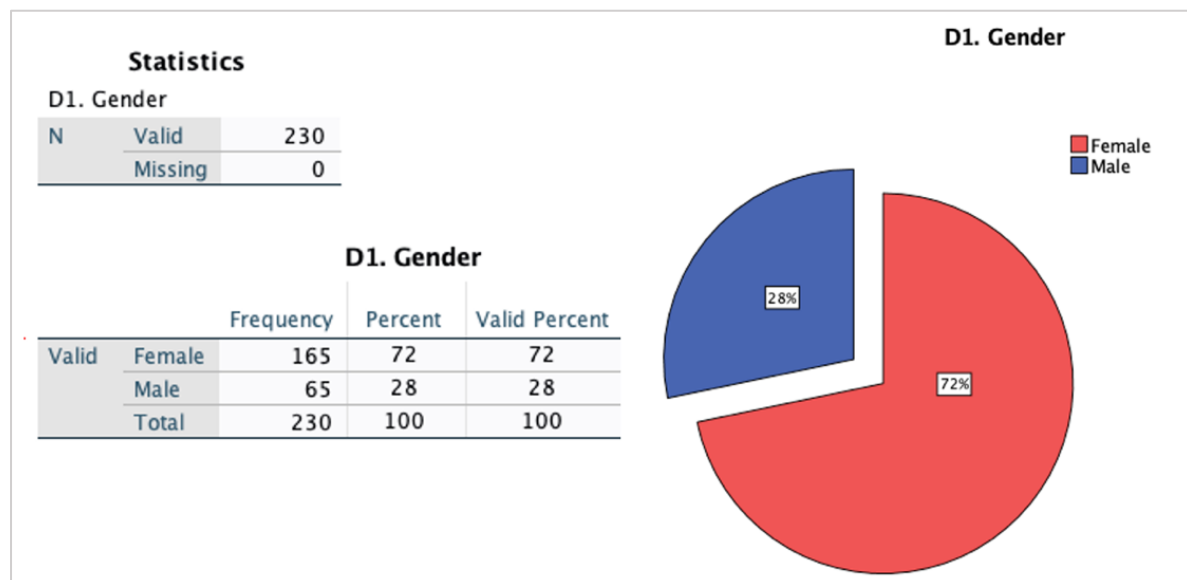


Figure 4.2 (a): Statistics of Gender

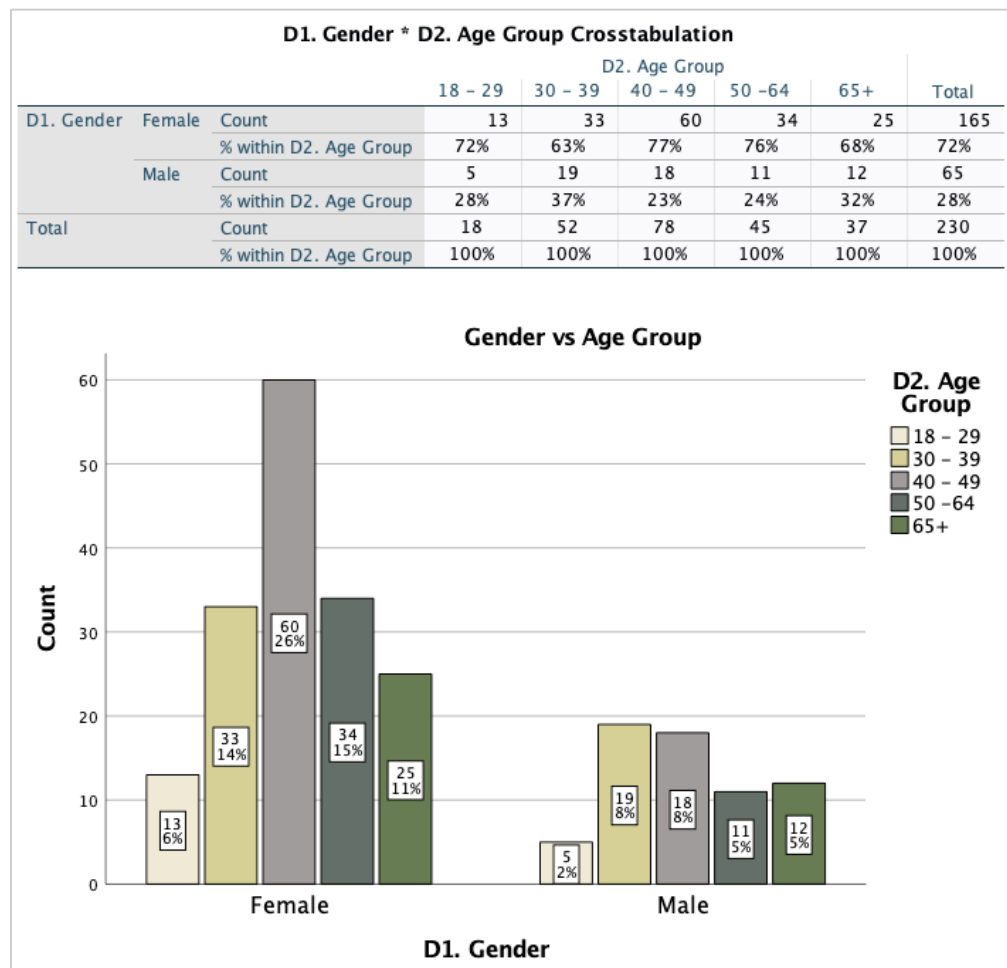


Figure 4.2 (b): Statistics of Gender vs Age Group

In particular to age group, the females had a higher range in 30 – 39, 40 – 49 and 50 – 64, which has a total of 127 respondents, 76 percent of the females total, and the males only had a higher among the age group of 30 – 39 and 40 – 49 with 37 respondents, 57 percent of the males total. Over 64 percent, 148 respondents are from the young group (Dyussenbayev, 2017) able to use new technology for their daily life, including online supermarket purchase in the age group of 18 – 29, 30 – 39 and 40 – 49, see above figure 4.2 (b).

Another aspect on occupation versus gender, and the graph shown housewife and housekeeper had a high percent in the females' side with a total of 77 respondents which almost half side of the females and together with retired / others will have an amount of 91 respondents, over 56 percent are doing most of the supermarket online shopping. Compared to males, the retired / others, housekeeper and housewife cover 40 percent and males with only 6 percent among the total 230 respondents, see below figure 4.2 (c). In summary of gender, age group and occupation that young females took the leaders to do the online supermarket shopping, especially to housewives and housekeepers which align to reality.

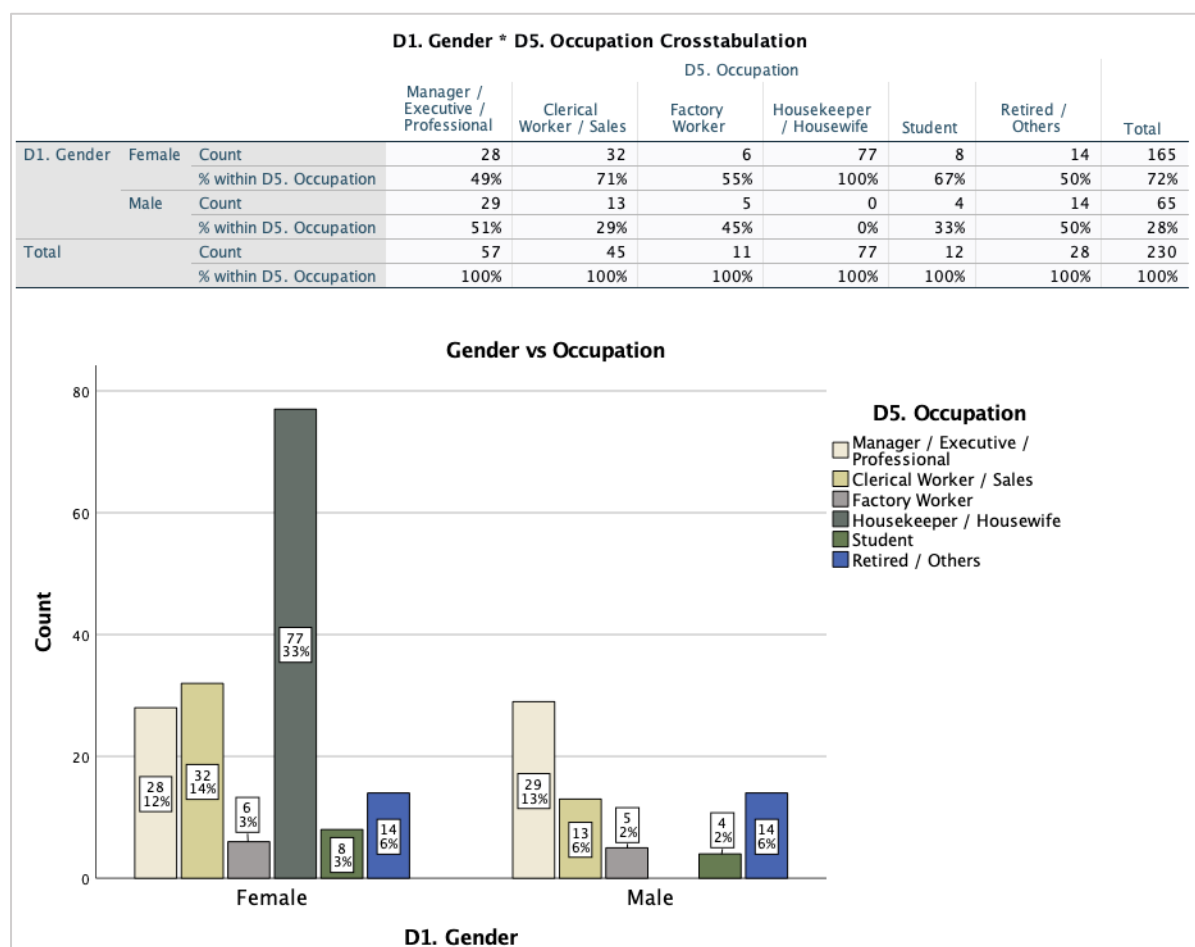


Figure 4.2 (c): Statistics of Gender vs Occupation

As most of our respondents are young age and they are mainly educated. Over 63 percent are vocational training level or above, 33 percent are post-secondary and less than 5 percent are secondary or below. From all of the respondents, over 95 percent is above post-secondary and likely educated people are more informed, effect and easy to get along with new things, include using online shopping, see below figure 4.2 (d).

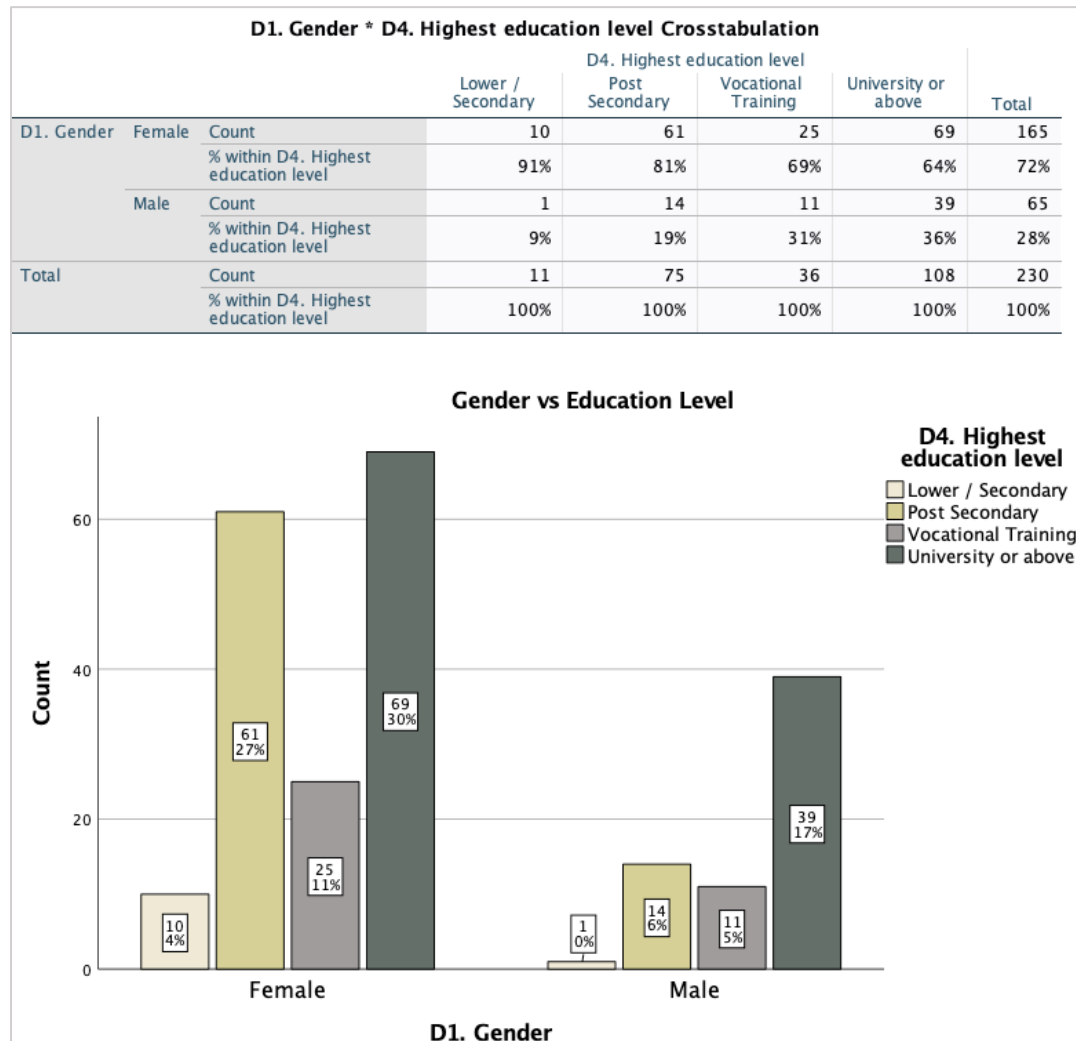


Figure 4.2 (d): Statistics of Gender vs Education Level

The average Hong Kong household size in 2021 had 2.7 members (C&SD, 2022d). The demographic of the survey shows that 53 percent, a total of 230 respondents and 122 respondents, have a household size of 2 – 3 members matches the existing Hong Kong household size situation. The second largest group will be 89 respondents, 39 percent of the total in the group size of 4 – 5 members.

And the rest are the size of 1 with 4 percent, size of 6 or above with 10 percent, see below figure 4.2 (e). Small households had become common as at least one elderly member, and households without children increased significantly in the past few years.

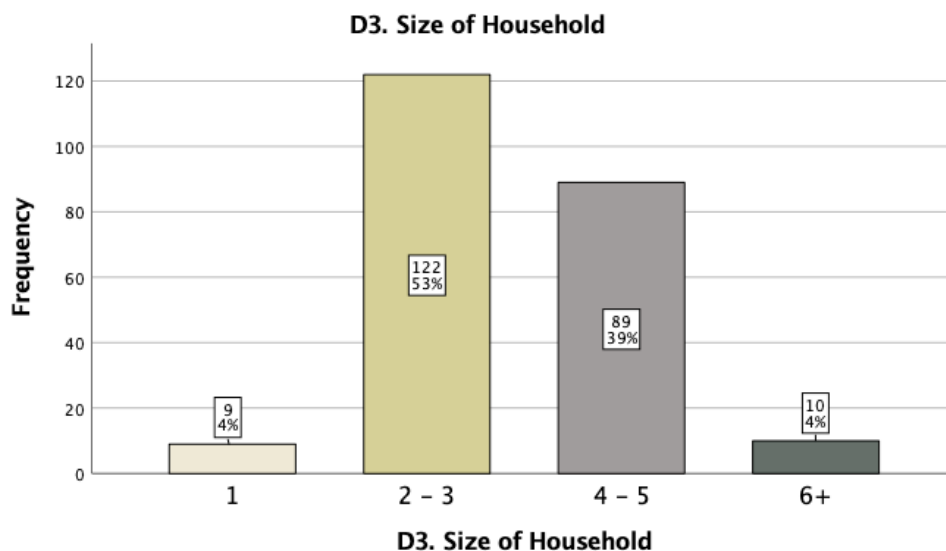


Figure 4.2 (e): Statistics of Size of Household

According to the survey, the most frequent local supermarket online shopping spending in each purchase is roughly 250 - 450 HKD per purchase with a total of 144 respondents' 63 percent, and below 250 HKD per purchasing are 46 respondents 20 percent and lastly over 450 HKD per purchasing are 40 respondents total 17 percent, see below figure 4.2 (f).

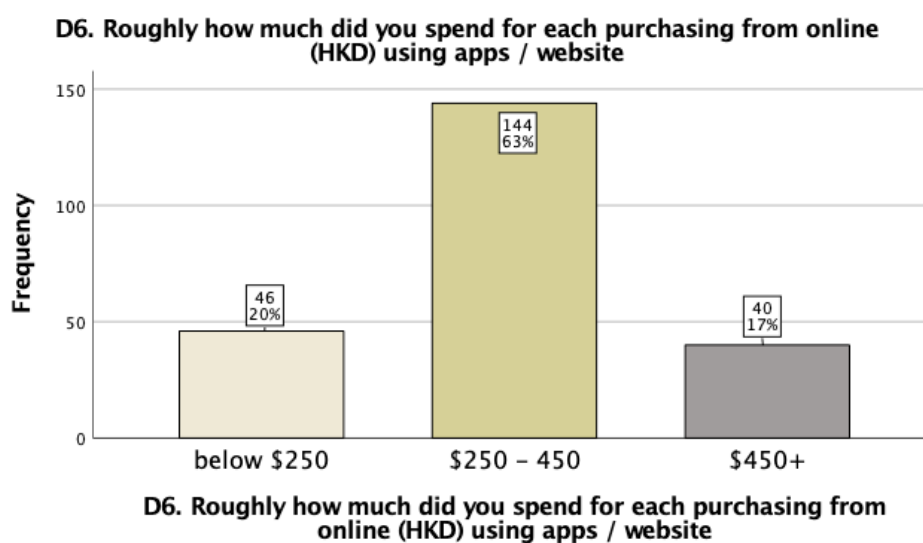


Figure 4.2 (f): Statistics of the frequent local supermarket online shopping spending in each purchasing

On a monthly basis, the frequency of online shopping per month are 1- 3 time(s) at 51 percent 117 respondents, 4 – 6 times at 41 percent 95 respondents and 7 or above at 8 percent 18 respondents. Overall, Hong Kong household spending on supermarket online shopping are mainly 1 – 3 time(s) which means they are doing it close to every week in a month, see below figure 4.2 (g).

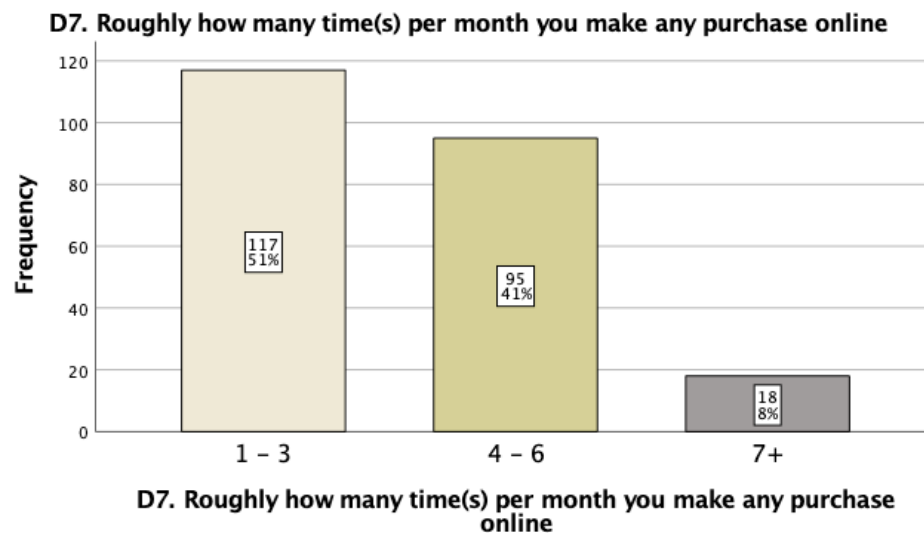


Figure 4.2 (g): Statistics of the frequent online shopping per month

As of 2018, the online buyers of global penetration rate is 47.3 percent, and statistics by gender 72 percent are females, and 68 percent are males. Females usually shop for groceries and clothing, while males usually shop for heavy-duty appliances like furniture, computers, and technologies (Ouellette, 2019).

In summary, females are doing most of the supermarket online shopping and it is commonly used in the young group. Finally, each household spends a maximum of 1,350 HKD/month (450 HKD per purchasing x 3times), similar to the latest Hong Kong statistics from C&SD 1,295 HKD/month (C&SD, 2021c – table 6, page. 8).

4.3 Inferential Statistics

This section analyses all data gathered from section 2 of the questionnaire. Questions are divided into five parts according to respective proposed variables, including Convenience (CE), Perceived Risk (PR), Pricing (PG), Service Quality (SQ) and Customer-Purchasing-Intention (PI).

To benefit the data collected, the following will be using reliability and validity test, correlation, and multiple regression analysis to conduct and interpret.

4.3.1 Coding of Variables

Variables	Code	Questions in the data set
Convenience	CE	Questions, CE1 - 5
Perceived Risk	PR	Questions, PR1 - 3
Pricing	PG	Questions, PG1 - 3
Service Quality	SQ	Questions, SQ1 - 5
Customer-purchasing-intention	PI	Questions, PI1 - 4

Table 4.3.1: Coding of Variables

Above table 4.3.1 referencing as analysis use, short format labelling or codes for each related variable use. It measures the variables and avoids confusion, a consistent response format using a five-point scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) in respect to the level of customer-purchasing-intention for Hong Kong supermarkets.

4.3.2 Reliability and Validity Measurement

Reliability Test

In general, if the reliability test using Cronbach's Alpha to measure is over 0.7, it is considered "acceptable", and the scale is reliable.

According to table 4.3.2 (a), there is a total of 8 items for Convenience with a result of 0.851, and these items are highly consistent and reliable.

Cronbach's Alpha	#. of items
0.851	5

Table 4.3.2 (a): Reliability Statistics on Convenience (CE)

According to table 4.3.2 (b), there is a total of 3 items for Perceived Risk with a result of 0.704, and these items are highly consistent and reliable.

Cronbach's Alpha	#. of items
0.704	3

Table 4.3.2 (b): Reliability Statistics on Perceived Risk (PR)

According to table 4.3.2 (c), there is a total of 3 items for Pricing with a result of 0.704, and these items are highly consistent and reliable.

Cronbach's Alpha	#. of items
0.704	3

Table 4.3.2 (c): Reliability Statistics on Pricing (PG)

According to table 4.3.2 (d), there is a total of 5 items for Service Quality with a result of 0.760, and these items are highly consistent and reliable.

Cronbach's Alpha	#. of items
0.760	5

Table 4.3.2 (d): Reliability Statistics on Service Quality (SQ)

According to table 4.3.2 (e), there is a total of 4 items for Customer-purchasing-intention with a result of 0.737, and these items are highly consistent and reliable.

Cronbach's Alpha	#. of items
0.737	4

Table 4.3.2 (e): Reliability Statistics on Customer-purchasing-intention (PI)

In summary, after running "SPSS Statistics", the five variables of Cronbach's Alpha index are over 0.7, which is considered as reliable and acceptable, see below table 4.3.2 (f), and all questions are designed in the right and reliable for a survey done.

Variables	#. of Questions	Cronbach's Alpha
Convenience (CE)	5	0.851
Perceived Risk (PR)	3	0.704
Pricing (PG)	3	0.704
Service Quality (SQ)	5	0.760
Customer-purchasing-intention (PI)	4	0.737

Table 4.3.2 (f): Reliability Statistics summary of 5 average variables

**Details, see Appendix – 2, page. 75.*

Validity Test

Further to the study, Kaiser-Meyer-Olkin (KMO) and Bartlett's Test are applied to measure sampling adequacy in SPSS. They are the validity factor analysis. For KMO, the value range from 0 to 1, and KMO was found = 0.855 (see below, table 4.3.2 (h)), which is excellent (table 4.3.2 (g)); in order to be able to conduct factor analysis, the KMO value should not be below 0.50 as the data is not well suited for factoring (Hair, 2010).

Kaiser-Meyer-Olkin (KMO) - Rule of thumb for interpreting the values on the results				
Below 0.50	0.50 - 0.59	0.60 - 0.69	0.70 - 0.79	0.80 - 1.00
Unacceptable	Miserable	Ordinary	Medium	Excellent

Table 4.3.2 (g): KMO – Rule of thumb
Source: Kaiser, 1974

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.855
Bartlett's Test of Sphericity	Approx. Chi-Square
	2159.454
	df
	190
	Sig.
	.000

Table 4.3.2 (h): Factor Analysis

Hence, Bartlett's test sig. result was = 0.000 ($p < 0.001$), which shows that the correlation matrix has significant correlations as a value less than 0.05 indicates it is acceptable, see above table 4.3.2 (h). The data show it is within the standard and has a degree of independence between variables. Further, the research questions' communalities are as follows: table 4.3.2 (i) (see next page), and extraction range between 0.534 to 0.732.

Communalities		
	Initial	Extraction
CE1. Online supermarket shopping would be easy to use	1.000	.691
CE2. Online platform is user friendly	1.000	.684
CE3. Browsing online need less time and easily to find the product	1.000	.732
CE4. Online grocery can be done anytime	1.000	.650
CE5. Confirm order take no time at all	1.000	.683
PR1. I trust the retailer	1.000	.561
PR2. I feel safe making purchase online	1.000	.683
PR3. I feel my disclosed personal information while doing online grocery purchase are safe	1.000	.534
PG1. I try to buy items that are on sale	1.000	.685
PG2. I compare prices from different retailers	1.000	.715
PG3. I consider free deliver service or budget bundling on top of the price	1.000	.644
SQ1. The retailer shows familiarity to me during service encounters	1.000	.717
SQ2. The retailer build a friendly relationship with me during service encounters	1.000	.708
SQ3. Delivery of online grocery is following the schedule	1.000	.643
SQ4. I found retailer informative during my interactions	1.000	.619
SQ5. I feel positive during my online shopping experience	1.000	.706
PI1. I am willing to purchase for household	1.000	.607
PI2. I have been purchasing on regular basis	1.000	.679
PI3. I will not shop again at the same online platform if receiving a negative shopping experience from last time	1.000	.669
PI4. I hope online grocery will apply to everyday e-commerce in the future	1.000	.635

Extraction Method: Principal Component Analysis.

Table 4.3.2 (i): Communalities of the dataset from all questions

4.3.3 Correlation Analysis

Correlation coefficient is to measure the relationship between the two variables. there are several types of correlation coefficients and the most popular is Pearson's correlation also called as "r" return a value between -1 and 1, where 1 indicates a strong positive relationship, -1 indicates a strong negative relationship and lastly a result of 0 as no relationship at all (Glen, 2020). Meanwhile, the sig. value (p-value) indicates <0.001 which the correlation is statistically significant.

Correlations			
		Average of Convenience	Average of Customer-purchasing-intention
Average of Convenience	Pearson Correlation	1	.429**
	Sig. (2-tailed)		<.001
	N	230	230
Average of Customer-purchasing-intention	Pearson Correlation	.429**	1
	Sig. (2-tailed)	<.001	
	N	230	230

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

Table 4.3.3 (a): Correlations of Convenience (CE) and Customer-purchasing-intention (PI)

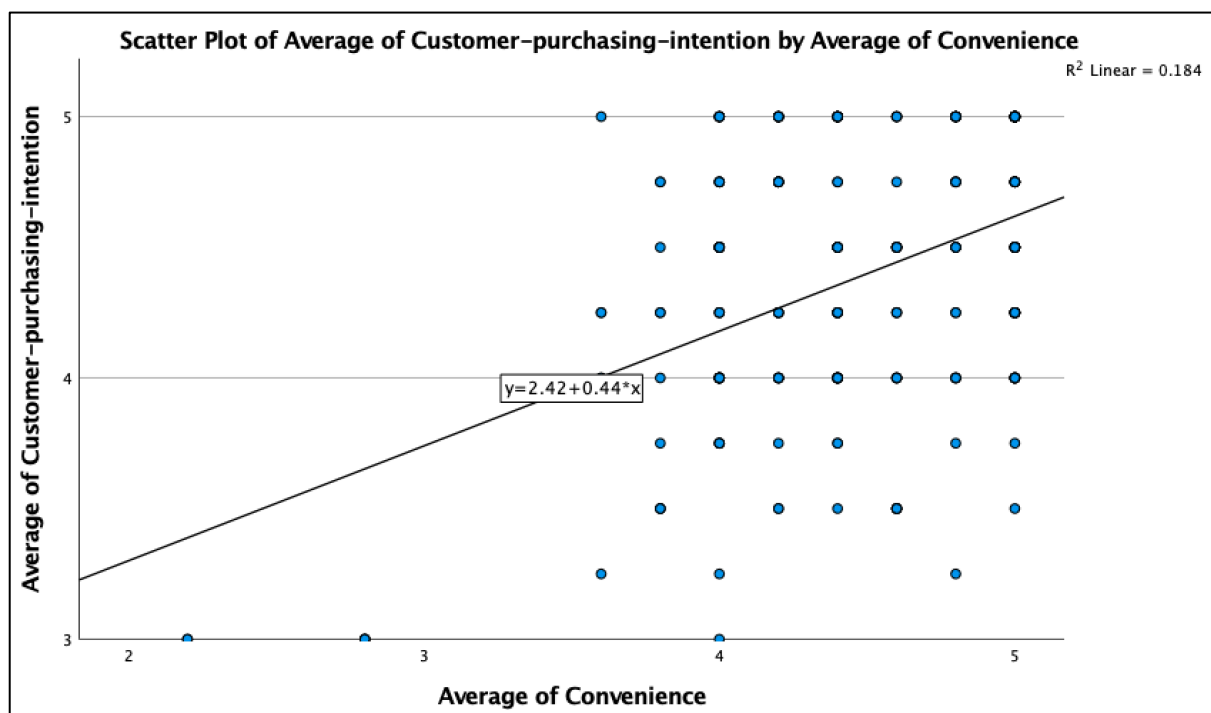


Figure 4.3.3 (b): Scatter Plot of Convenience (CE) and Customer-purchasing-intention (PI)

Correlations

		Average of Perceived Risk	Average of Customer-purchasing-intention
Average of Perceived Risk	Pearson Correlation	1	.581**
	Sig. (2-tailed)		<.001
	N	230	230
Average of Customer-purchasing-intention	Pearson Correlation	.581**	1
	Sig. (2-tailed)	<.001	
	N	230	230

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

Table 4.3.3 (c): Correlations of Perceived Risk (PR) and Customer-purchasing-intention (PI)



Figure 4.3.3 (d): Scatter Plot of Perceived Risk (PR) and Customer-purchasing-intention (PI)

Correlations

		Average of Pricing	Average of Customer-purchasing-intention
Average of Pricing	Pearson Correlation	1	.132 [*]
	Sig. (2-tailed)		.045
	N	230	230
Average of Customer-purchasing-intention	Pearson Correlation	.132 [*]	1
	Sig. (2-tailed)	.045	
	N	230	230

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.3.3 (e): Correlations of Pricing (PG) and Customer-purchasing-intention (PI)

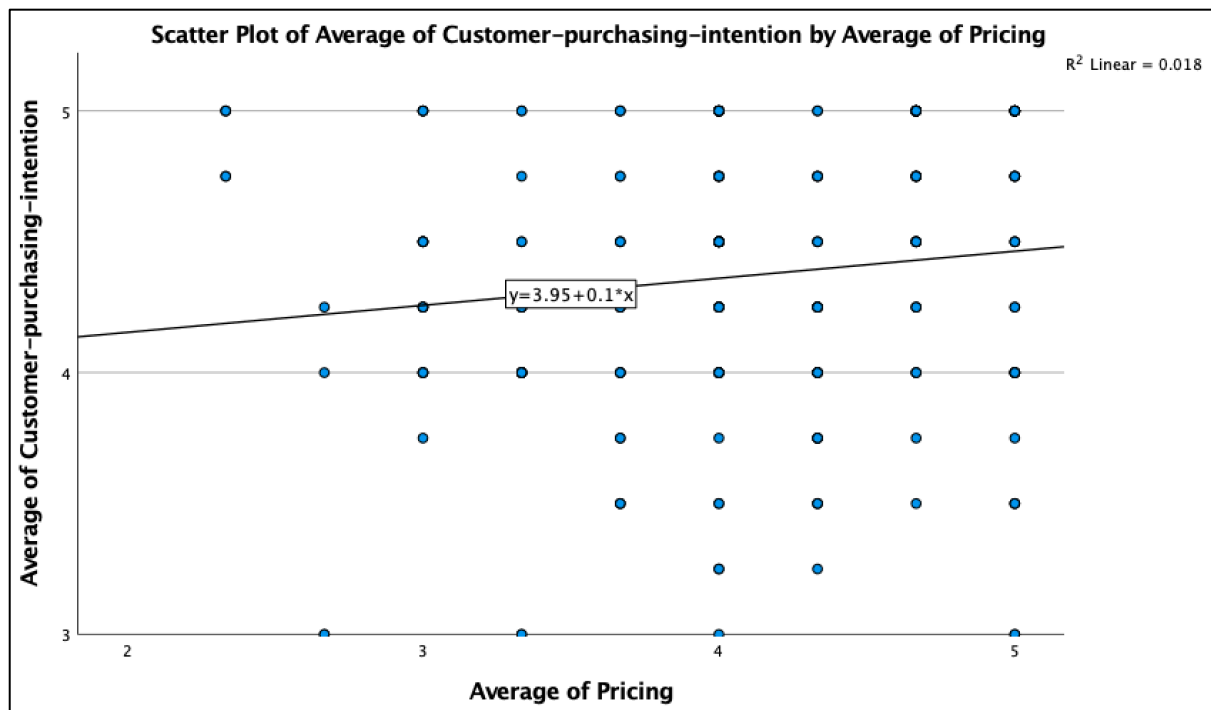


Figure 4.3.3 (f): Scatter Plot of Pricing (PG) and Customer-purchasing-intention (PI)

Correlations

		Average of Service Quality	Average of Customer-purchasing-intention
Average of Service Quality	Pearson Correlation	1	.513**
	Sig. (2-tailed)		<.001
	N	230	230
Average of Customer-purchasing-intention	Pearson Correlation	.513**	1
	Sig. (2-tailed)	<.001	
	N	230	230

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

Table 4.3.3 (g): Correlations of Service Quality (SQ) and Customer-purchasing-intention (PI)

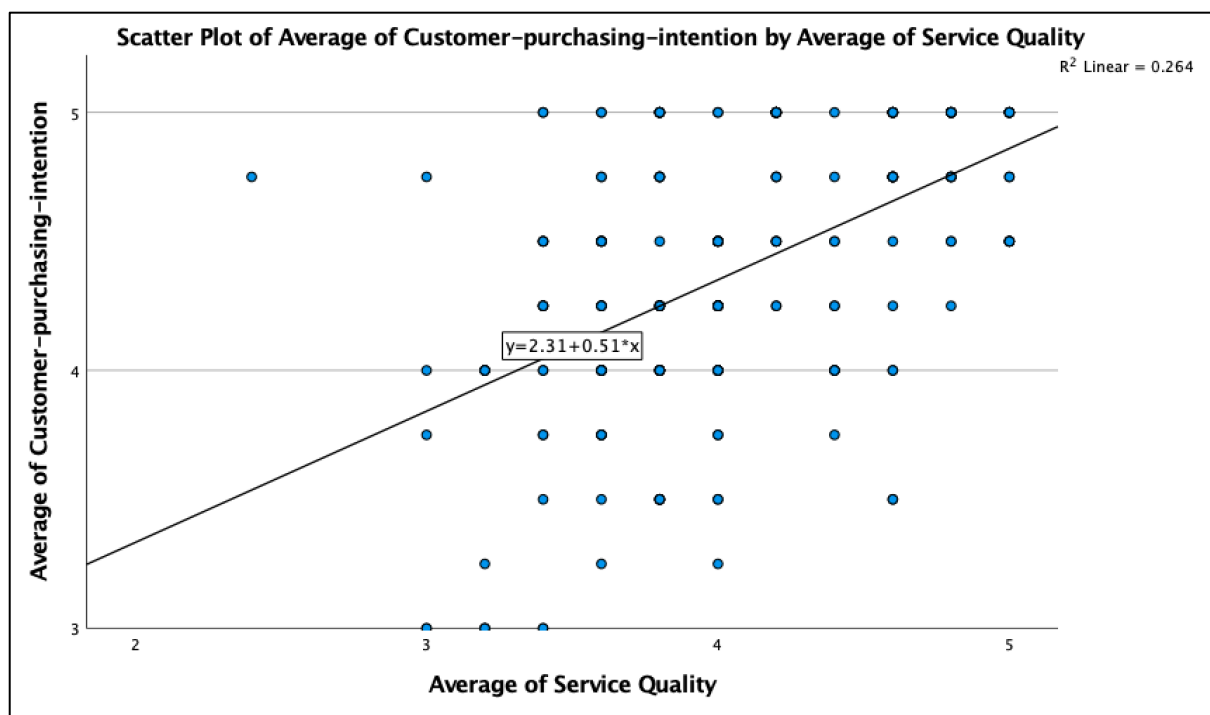


Figure 4.3.3 (h): Scatter Plot of Service Quality (SQ) and Customer-purchasing-intention (PI)

		Correlations				
		Average of Convenience	Average of Perceived Risk	Average of Pricing	Average of Service Quality	Average of Customer-purchasing-intention
Average of Convenience	Pearson Correlation	1	.654**	.194**	.393**	.429**
	Sig. (2-tailed)		<.001	.003	<.001	<.001
	N	230	230	230	230	230
Average of Perceived Risk	Pearson Correlation	.654**	1	.187**	.534**	.581**
	Sig. (2-tailed)	<.001		.004	<.001	<.001
	N	230	230	230	230	230
Average of Pricing	Pearson Correlation	.194**	.187**	1	.289**	.132*
	Sig. (2-tailed)	.003	.004		<.001	.045
	N	230	230	230	230	230
Average of Service Quality	Pearson Correlation	.393**	.534**	.289**	1	.513**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	230	230	230	230	230
Average of Customer-purchasing-intention	Pearson Correlation	.429**	.581**	.132*	.513**	1
	Sig. (2-tailed)	<.001	<.001	.045	<.001	
	N	230	230	230	230	230

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

* . Correlation is significant at the 0.05 level (2-tailed).

Table 4.3.3 (i): Correlations of the 5 variables

Table 4.3.3 (i), the coefficient between convenience and customer-purchasing-intention is 0.429 ($r=0.429$, $p<0.05$), representing a positive but fair weak correlation. Next, the coefficient between perceived risk and customer-purchasing-intention is 0.581 ($r=0.581$, $p<0.05$), representing a positive and moderately strong correlation. Third, the coefficient between pricing and customer-purchasing-intention is 0.132 ($r=0.132$, $p<0.05$), representing a positive but very weak correlation. Lastly, the coefficient between service quality and customer-purchasing-intention is 0.513 ($r=0.513$, $p<0.05$), representing a positive and moderately strong correlation.

4.3.4 Regression Analysis

Regression models use to describe the relationships between variables by fitting a line to observe by data. Multiple linear regression estimates the relationship between two or more independent variables and one dependent variable (Bevans, 2020). The analysis was generated by SPSS and transformed into a linear relationship performed as regression analysis.

As the study of the model summary shown from table 4.3.4 (b) next page, the correlation coefficient $R=0.632$ a positive with linear relationship and adjusted R Square is 0.388 ($R^2=0.399$) that the independent variables accurately explained 38.8 percent of the variability

of the dependent variable; meaning the customer-purchasing intention variation can pass through perceived value. Next, the ANVOA table shown in table 4.3.4 (c) has a sig. value of <0.001 and while it is less than 0.05 it represented as a significant relationship between the independent and dependent variables in the model. Hence, a sufficiently with large F-value ($F=37.363$) indicates that the model is significant (Pripp, 2015).

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Average of Convenience, Average of Perceived Risk, Average of Pricing, Average of Service Quality ^b	.	Enter

a. Dependent Variable: Average of Customer-purchasing-intention
b. All requested variables entered.

Figure 4.3.4 (a): Multiple Linear Regression – Variables Entered

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.632 ^a	.399	.388	.411

a. Predictors: (Constant), Average of Convenience, Average of Perceived Risk, Average of Pricing, Average of Service Quality
b. Dependent Variable: Average of Customer-purchasing-intention

Figure 4.3.4 (b): Regression Model summary of Independent and Dependent Variables

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.279	4	6.320	37.363	$<.001$ ^b
	Residual	38.058	225	.169		
	Total	63.337	229			

a. Dependent Variable: Average of Customer-purchasing-intention
b. Predictors: (Constant), Average of Convenience, Average of Perceived Risk, Average of Pricing, Average of Service Quality

Table 4.3.4 (c): ANOVA table

Further, next page table 4.3.4 (d) as shown below that only the means of perceived risk and service quality has the sig. value <0.05 (Udovicic et al., 2007) which indicates as statistically significant and significant predictor of customer-purchasing-intention. Next, the means of

convenience and pricing has the sig. value >0.05 , convenience sig. value = 0.319 and pricing sig. value = 0.488, which means they are not statistically significant and are not a significant predictor of customer-purchasing-intention. It is explained that perceived risk and service quality are the only variables with statistically significant and unique variance a predictor accounts for the statistically significant and significant predictor of customer-purchasing-intention.

Hence, the definition of VIF value is to indicate how much the variance of a coefficient is inflated to the correlations among the predictors in the models. The VIF is also described as how much multicollinearity are existed in a regression analysis. If $VIF = 1$, the status of predictor is not correlated. If VIF is greater than 1 but less than 10, then it is moderately correlated and if it is >10 , it indicates a severe collinearity problem (James et al., 2013). Finally, all VIF values are acceptable as the values from the study are in a range of 1 to 3, which means accept in requirement. (Convenience is 1.768, Perceived Risk is 2.077, Pricing is 1.101 and Service Quality is 1.478).

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
1		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	1.732	.285		6.081	<.001		
	Average of Convenience	.070	.070	.069	.998	.319	.566	1.768
	Average of Perceived Risk	.317	.061	.388	5.216	<.001	.481	2.077
	Average of Pricing	-.029	.042	-.038	-.694	.488	.908	1.101
	Average of Service Quality	.288	.062	.290	4.616	<.001	.676	1.478

a. Dependent Variable: Average of Customer-purchasing-intention

Table 4.3.4 (d): Coefficients table of Individual Independent Variables

In addition, the source of collinearity table 4.3.4 (e) as next page, extracted uncorrelated dimensions from the variable data. The data from the condition index are between 14 to 33. According to Kim (2019), condition index from 10 to 30 is indicated as the presence of multicollinearity, and over 30 has strong multicollinearity. Finally, the multicollinear variables identified by the variance decomposition proportions can be discarded from the regression model, making it more statistically stable. However, the principled exclusion of multicollinear variables alone does not guarantee the remaining relevant variables, whose effects on the response variable should be investigated in the multivariable regression analysis.

Collinearity Diagnostics ^a								
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Variance Proportions			
					Average of Convenience	Average of Perceived Risk	Average of Pricing	Average of Service Quality
1	1	4.952	1.000	.00	.00	.00	.00	.00
	2	.023	14.722	.00	.02	.13	.70	.01
	3	.011	21.689	.38	.00	.42	.29	.06
	4	.010	22.686	.07	.19	.00	.00	.81
	5	.005	32.669	.55	.79	.45	.00	.13

a. Dependent Variable: Average of Customer-purchasing-intention

Figure 4.3.4 (e): Table of Collinearity Diagnostics

Residuals Statistics ^a					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.07	4.99	4.37	.332	230
Residual	-1.004	1.680	.000	.408	230
Std. Predicted Value	-3.911	1.862	.000	1.000	230
Std. Residual	-2.441	4.084	.000	.991	230

a. Dependent Variable: Average of Customer-purchasing-intention

Figure 4.3.4 (f): Table of Residuals Statistics

Residual value is the vertical distance between a data point and the regression line, and each data point has one residual (table 4.3.4 (f) as above). A good model should be scattered on both sides of zero. If has a positive residual, its value is greater than the predicted value made by the regression line. Conversely, if has a negative residual and its value is less than the predicted value made by the regression line (Bobbitt, 2020). For this study, the minimum residual value -1.004, maximum value 1.680, mean 0.000 and the standard deviation 0.408.

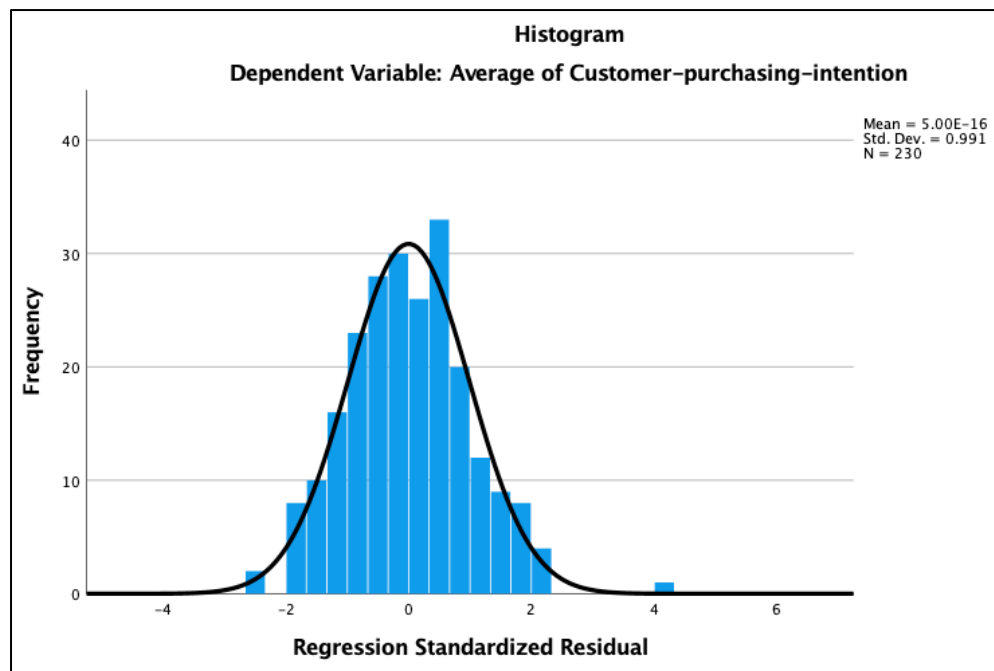


Figure 4.3.4 (g): Histogram

The above figure 4.3.4 (g), histogram shows the regression model of the standardized residuals that are normally distributed, which indicate a positive and linear relationship (figure 4.3.4 (h), see below).

Hence, next page figure 4.3.4 (i), the scatter plot shows that the distribution of residual values is evenly and randomly spread, which means the errors are independent and not correlated to each other.

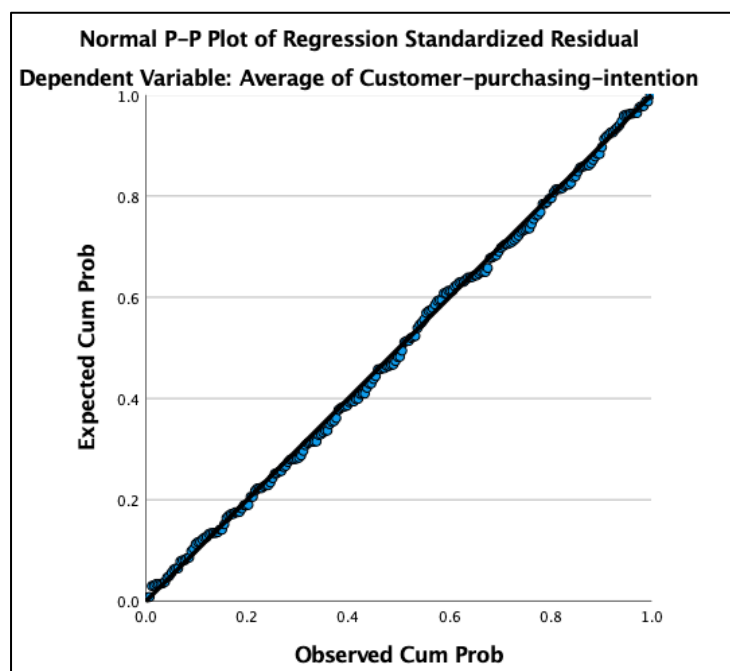


Figure 4.3.4 (h): Normal P-P plot of Regression Standardized Residual

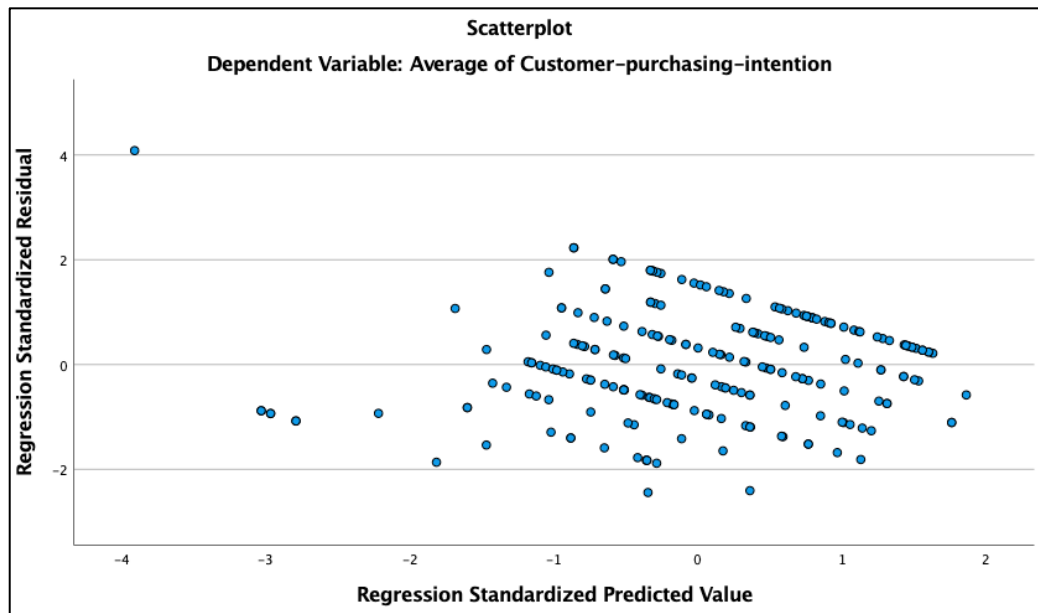


Figure 4.3.4 (i): Scatterplot

4.4 Discussion and Results

Based on the above analysis, a linear regression line has an equation of:

$$PI = 1.732 + 0.070(CE) + 0.317(PR) - 0.029(PG) + 0.288(SQ)$$

PI = customer-purchasing-intention, CE = convenience, PR = perceived risk, PG = pricing, SQ = service quality

In conclusion, the model and above formula shows that high rate of perceived risk and service quality but low convenience and pricing for customer-purchasing-intention.

4.4.1 Hypothesis

In this section, based on the hypothesis test result, only perceived risk (PR) and service quality (SQ) are supported, and their final result is less than <0.001 , which both are accepted and positively related to customer-purchasing-intention. The output shows that PR and SQ predictor variable are statistically significant because p-value <0.05 (table 4.4.1 (a), next page), a 5 percent risk of concluding a difference exists between the variables when there is no actual difference (Abhigyan, 2020). On the other hand convenience (CE) and pricing (PG) p-value are greater than usual significance level of 0.05 which indicated a weak evidence and it is not statistically significant.

Finally, p-values and coefficients in regression analysis works in a chain as to tell relationships in the model are statistically significant and the nature of those relationships.

The overall results of the hypothesis test are summarized as below:

Hypotheses	Regression Coefficient	Significant value (p-value)	Analysis Result
H1: CE → PI	0.069	0.319	Not Supported
H2: PR → PI	0.388	<0.001	Supported
H3: PG → PI	-0.038	0.488	Not Supported
H4: SQ → PI	0.290	<0.001	Supported

Table 4.4.1 (a): Results on Hypothesis Test

Hence, below table as hypothesis test decision making:

Hypotheses	Decision
H1: There is a significant relationship between convenience (CE) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.	Rejected
H2: There is a significant relationship between perceived risk (PR) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.	Accepted
H3: There is a significant relationship between pricing (PG) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.	Rejected
H4: There is a significant relationship between service quality (SQ) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.	Accepted

Table 4.4.1 (b): Overall Decision Making on Hypothesis Test

5 Conclusion and Recommendations

Summarizing the findings of our results aligns with the literature review and expresses whether all our hypotheses are valid. We will suggest and recommend for future development on online supermarkets and to related field professionals.

5.1 Conclusion

5.1.1 Results of Hypothesis Testing (H1 – H4)

Carry on Chapter 4.4.1, the final decision on proposed hypotheses are as follows:

Hypotheses	Decision
H1: There is a significant relationship between convenience (CE) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.	Rejected
H2: There is a significant relationship between perceived risk (PR) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.	Accepted
H3: There is a significant relationship between pricing (PG) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.	Rejected
H4: There is a significant relationship between service quality (SQ) and customer-purchasing-intention (CI) in Hong Kong Online Supermarkets.	Accepted

Table 4.4.1 (b): Overall Decision Making on Hypothesis Test (Reference page. 52)

As shown from above page, table 4.4.1 (b) that the final decision on the hypotheses only perceived risk (H2) and service quality are accepted based on our research analysis.

In conclusion, a total of two hypotheses are supported. The test had indicated all the positive and significant relationships on perceived risk and service quality. Perceived risk means affecting customer's online shopping purchasing decisions. Meanwhile, the brand owner has to be clear; also strengthen the customer confidence and lower the risk adjudicate to the feeling, and service quality means how the organization delivers its services to customers expectations, including special needs. Standards are always expected and must fulfil basic needs and higher

service quality to exceed customer expectations. Both perceived risk and service quality are leading from customer-purchasing-intention and impact the business performance of online supermarkets.

5.1.2 Discussion

Although, perceived risk and service quality are the variables with significant according to our study which are explained and predict to customer-purchasing-intention online supermarket and the remain two variables of convenience and pricing are not able to be explained or predicted. However, we may conclude as low priorities in our studies.

Convenience is a statement of proceeding without difficulties, and online supermarkets in Hong Kong are always handy by using apps purchasing. There are two major supermarkets in Hong Kong with over 540 supermarkets from Wellcome and ParkNshop; 68 percent of the local supermarkets are from them. Their great networks, 24-hour and online plus HK's leading online shopping mall HKTVmall on food groceries, a Hong Kong top site traffic ranking #31 in 2021 (2020: #41) highly engaged with customers in daily living (HKTV, 2021 – page. 18). Hence, the new trend of delivering groceries like Pandamart (Pandafood, 2021); one-stop-shop for fast grocery delivery in just 20 minutes from online placing an order. These create a new consumer lifestyle of speed, convenience and effortless for any time of the day to customers.

Hong Kong is such a convenient place, we can find supermarkets in every core street, and online supermarket services which allow skipping the trip without ever having to leave their house, especially current anti-virus controls by social distancing restrictions due to COVID-19 or less time and energy to hit to the supermarket shops.

Lastly, pricing for products is always easy to compare from the online supermarket. High unit prices will affect people's daily living, and therefore competition is always in Hong Kong online supermarkets. The advantages of doing online are more channels to sell products, reduce operations & marketing costs, etc. Also, to benefit different customers, such as: home delivery, special offers or bundling purchasing, etc.

Price is always what pays for what they receive. Some companies may have minimum charges for home delivery, which may be not worth when getting budget and bundle products that are cheap but additional cost for convenience as the delivery and service fees have higher costs than others. The demand for online has increased significantly in past years, as to be comparative and to find a cheaper option; more using pick-up which groceries or supermarket shops partnered with third-party companies for curbside pick-up and led the price in a competition. More, customers also consider buying in bundle with cheaper from online and pick-up by themselves to enjoy more discount offers. Overall, pricing is important to customers, but they have the right to choose what they would like to receive by comparing different shops and markets now a day is easy to find the best price around by using the search engine and apps which can do it anywhere without difficulties to make decisions.

Summarizing the above, no one will disagree with Hong Kong convenience and competitiveness. The study of our convenience and pricing, although it is not significant and predicts to customer-purchasing-intention, but it does not really mean they are less critical as Hong Kong is too easy to reach what they needed as lots of international reviews has been conducted the success factors of Hong Kong (PTeC, 2017) which makes both variables as of in Hong Kong are low priorities or not significant.

5.2 Recommendations

Through theoretical logic, questionnaire survey, data collections and statistical research analysis, reviews and our results, it is shown that online supermarkets are popular in Hong Kong. During the COVID-19 has further reach as "new normal", turning to online shopping and accelerating the needs for household as stay-at-home directives, save time, less effort and convenience. A survey in 2020 from Statista had conducted that grocery, fresh produce and meats are within the Top 5 and grocery with approximately 63 percent of the total 500 respondents aged 18 – 55 years group ordered groceries more frequently and 60 percent spending more (Statista, 2020c), see next page table 5.2. It is necessary to continue improving and increasing customers' expectations for value in perceived risk and service quality which the study detected statistically significant and predict to customer-purchasing-intention.

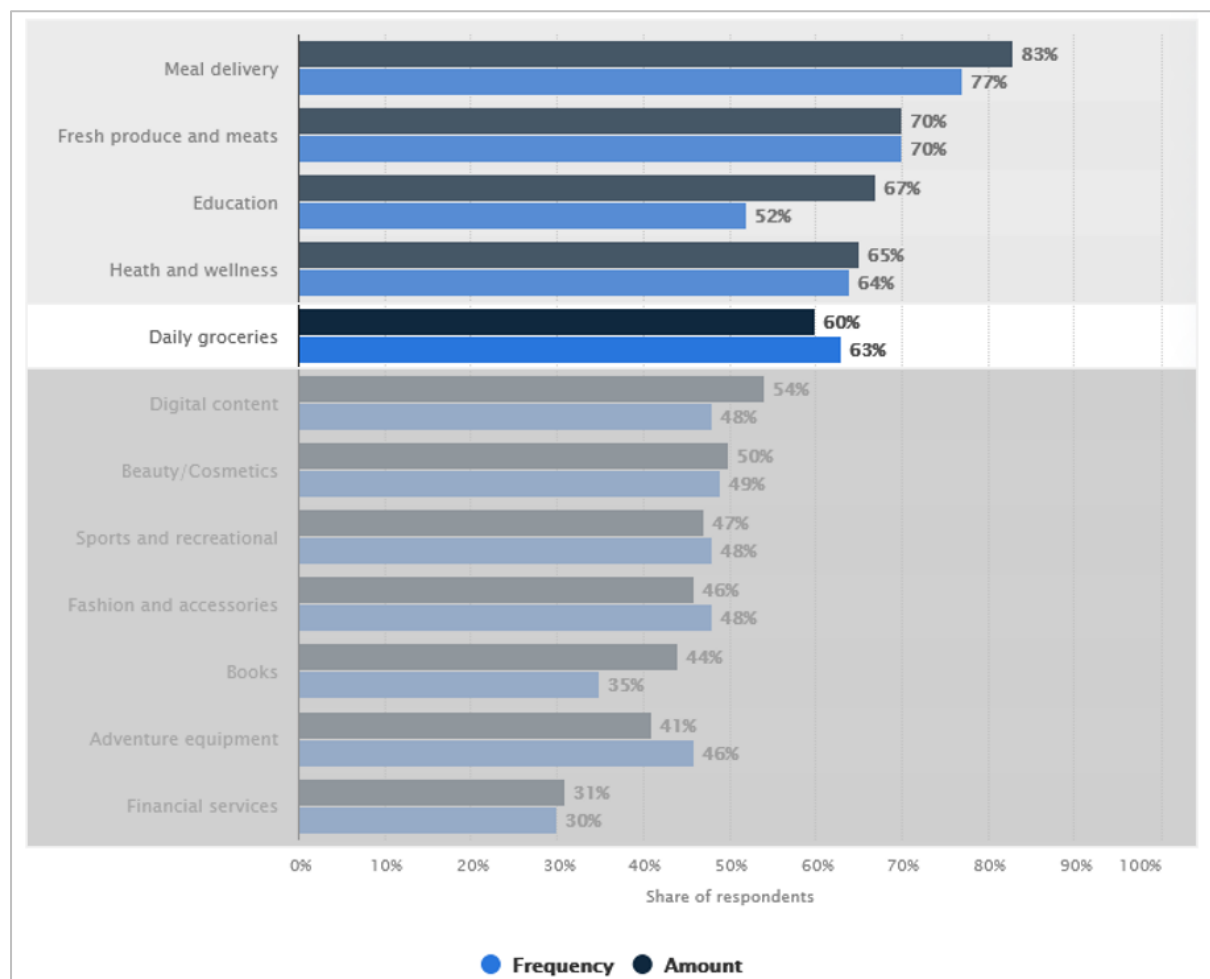


Table 5.2: Share of consumers who increased their online shopping frequency and amount during COVID-19 in HK in 2020, by category

Source: Statista, 2020c

Perceived risk and service quality had come significant to customer-purchasing-intention in Hong Kong online supermarkets. Further, recommendations for perceived risk are on pricing transparency, online platform security, stability and user friendly. Ensuring it is easy for customers to register, ease of use, and accessibility to find and search the required products using filter options, add it to their carts, review or edit their orders, and finally make payments. Moreover, service quality offers online supermarkets reliability, responsiveness, and customer assurance. A good reputation will always boosts their sales, saves marketing money and lead the business repeat. Below we will provide expert advice for those professionals, including researchers, grocery website and layout designers, IT, supermarket chain marketing managers, directors or high-level executives, competitors, and specialists related to supermarket retails,

and continue their growth in the upcoming year. The suggestions will reinforce local competitors and help the supermarket chains operate more efficiently.

5.2.1 Recommendation for IT, Grocery website and layout designers

Perceived risk is uncertainty when customers buying items. Every time a consumer considers buying a product online, they will feel the struggle, and offering references to share references online will make a big difference. It is to increase the reputation of the company's product and emphasise the warranty, mention the important information or no hidden extra cost in front of the purchasing page. This will increase customer confidence by clear photos with actual deliver items, quantity and quality, product descriptions, and terms in readable fonts.

Hence, security for e-payment is also important. Most customers are afraid of making payments online, especially on high priced products, and many banks do have extra security when buying online, which may involve two-factor authorisation (2FA). This means when you are doing online checkout you will have to pass an extra level of security to prove your purchase. It is a one-off code, sent by text message to your registered mobile phone number account. However, sometimes it could involve delay and not able to answer the security questions. There are trends to use third-party E-wallet or e-money services like Octopus, PayPal, Alipay, or Wechat pay etc., to pay, which are worth considering and do not have to give out your card details. A smooth transaction payment experience will reassure customers that they are safe from the hands of hackers and provide reassurance of security and privacy support, which can also support in 24-hr hotline if necessary.

Lastly for service quality will be the value-add services which are able to provide knowledge or information to give customers some value and when they need advice. The social media platform are the most powerful tools to provide information to customers and increase the brand recognition, which may covert potential consumers to customers. Also, it is a cost-effective solution to increase your customer insight into the company and enable the products or company feedback from customers to be transparent in public, which led the internal of the company need to listen or review customers feedback and turn it into a good reputation for company success.

Overall, web designing is all about colour psychology, images and fonts to convince consumers to purchase and let the user experience feel on-brand. One of the top rules is "KISS" – keep it simple, clear or valued added information and always think like consumers. Especially the payment options, it is important to have trust and security. Often offer popular payment options will always make a shopping experience to encourage new customers to make their first purchasing and repeat which can easily make a purchase on the store prevent the trust and security causes.

5.2.2 Recommendation for Supermarket experts and high-level managements

Perceived risk is every consumer considers after service, especially on high priced goods with guaranteed good quality of products. More online supermarkets may have functional, time and physical risks; they fear the buying will fail to perform its intended functions. Sometimes, if a product breaks or fails after a few days and needs replacement but has to wait for replace or products physical damaged when delivered to home, which often had delay replacement or bad experience after-sales. The perceived risk may ensure by transparent, replacement or follow up can be through calls to check the status or email the customer for replacement status. Local stores can return damage items or offer deliver pick-up servicing to prevent the waiting hesitation; always ensure transparency where customers can give opinions anytime; assured that issue offering follow up traceability and no risk for customers to think service providers are hiding.

Service quality means is a measure of how an organization delivers its service to their expected customers. Customers will purchase the services as response to specific needs and company deliver the services to fulfil those needs or even higher with will exceed its customers' expectations (Laurence, 2020). Based on the service quality, the best for it is to be responsible for everything happens. All customers will be happy to listen if the responsible goes to retailers, especially to the quality of the products, processes and after servicing. Most of the customers would like to have good user experience and wishing to get their products right away.

Hence, is the guarantee of good quality servicing of on-time delivery options which they never wanted to wait. Some customers may prefer to deliver at home, and some wishes to do pick-up at close location and the more deliver the retailers offers and the more they are satisfying their customer of demands.

Management shall always plan ahead to make an excellent e-commerce platform. Make sure the site is safe, loads quickly & checking out simple on any devices, and able to link and work with a management system that can let customers know the items are in stock or backorder date on a product page if possible. Easy for customers to contact, able to track progress of the order, offering live chat features with order picker and for product issues. These are relay on centralised product information management, which needs investment and resources for specialists to work on. Others always review product pages and customer Q&A pages to improve the present to the customers. It will be also helpful if to have a solid customer data foundation to do good analysis of customer behaviour and feedback. These elements can help to prevent the guesswork and costly mistake. On the other hand, it is for continuously improvement. As reported, 22% of product returns happen because the product looks different and that is why making sure the product visuals demonstrate are products in use (Kulakov, 2020). It may be a good idea to review the pages and comments often and upload a video for a better product demonstration if possible.

5.2.3 Summary

Online supermarkets have made our life easier and quicker, and we do not need to step out for groceries. The "new normal" had accelerated the continuous growth of online supermarkets throughout 2022. In 2020, the figure showed spending more time online than the outbreak period with 44% purchasing more groceries online (Ipsos, 2020). These steps only require a few clicks and taps on apps or websites, enhancing customer experience and driving extra valuable interactions. Further to increase customer loyalty, we may need to consider their quality servicing and perceived risk as others are too convenient and pricing are easy to compare.

Transparent, trust and security had always come first to our end customers. Further, the added-value servicing like free shipping and convenience pick-up points will be a highlight to motivate customers to keep shopping plus return and guarantee a high-quality policy. More will be the frequent communication, sharing using the technology through social media to let customers share product reviews, following the brand and filtering what they like the most. The study listed the priority of Hong Kong customers as the perceived risk for security, informative information, and product quality. Moreover, the service quality they are looking for after servicing such as responsiveness, deliver service. There is a priori reason why these factors are applied to our online performance. And once again, convenience and pricing at low priority do not mean they are unnecessary in Hong Kong as it is too easy to find competition, making the needs in a lower grade.

6 Limitations and Further Study

There are various limitations on the study, and consider the limitations mentioned in chapter 3.6. One of the limitations was the quality of answers, and the response rate for the online survey is hard to control as the distraction effect. Hence, we are not able to capture all the population, and therefore we are using the scientific way of survey and monitoring all the respondents to prevent misunderstandings or discretionary answering on questions that cannot be noticed until inputting the data. The study will be interested in online supermarkets and turning them into opportunities by identifying the factors / variables and quickly adjusting its business model to the customer's needs.

Although, our study is limited, the whole-time plan started in October 2021 and submit in April 2022 within 6 months. By minimizing the limitations, everything will be presented transparently to have a key strategy benefit from the study and positive impression to reviewers rather than ignoring them. Further, suggestions for continuing research will be on delivery options, such as directly to home or to pick-up point as to consider the fast-growing segment within the online supermarket industry to evaluate the efficiencies of the deliver chain. Hence, we may only consider over 18-year-old females who are mostly doing household purchasing, and over 71 percent from our study are female to increase the high accuracy, data research results that obtain more complete and deep-dive the service needs from the online supermarket.

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Appendix – 1

Survey of the factor influencing customer-purchasing-intention in Hong Kong Online Supermarkets (MBA, UWTSD, UK).

I am currently studying the Master degree of Business Administration at University of Wales Trinity Saint David, UK partnership with Hong Kong Management Association. This survey aim is for research use, to evaluate and identify the factor influencing customer-purchasing-intention in Hong Kong online supermarkets. We are expecting people are over 18 years old who had done online supermarket shopping in Hong Kong before. Please help fill out the questionnaire, thank you! The questionnaire takes about 5 minutes. All data will be confidential and used for research purposes. All research data and information will destroy afterward.

Q1. Have you ever done groceries on any online platform in Hong Kong before, such as apps, websites, etc.

Yes	No
-----	----

Section 1 – Demographic

D1. Gender

Male	Female
------	--------

D2. Age Group

1) 18 - 29 2) 30 - 39 3) 40 - 49 4) 50 - 64 5) 65+

D3. Size of Household

1) 1 2) 2 - 3 3) 4 - 5 4) 6+

D4. Highest education level

1) Lower / Secondary 2) Post-Secondary 3) Vocational Training 4) University or above

D5. Occupation

1) Manager / Executive / Professional 2) Clerical Worker / Sales 3) Factory Worker
4) Housekeeper / Housewife 5) Student 6) Retired / Others

D6. Roughly how much did you spend for each purchasing from online (HKD) using apps/website?

1) Below 250 (HKD) 2) 250 - 450 (HKD) 3) 450+ (HKD)

D7. Roughly how many time(s) per month you make any purchase online?

1) 1 - 3 months 2) 4 - 6 months 3) 7+ months

Section 2 – Survey Questions

In this section, please according to your shopped online and fill in all questions truthfully.
The survey takes approximately 3 minutes.

Please kindly choose the ONE with most appropriate description for your answer.

Rank explanation: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Convenience (CE)

	Strongly Disagree				Strongly Agree
CE1. Online supermarket shopping would be easy to use?					
	1	2	3	4	5
CE2. Online platform is user friendly?					
	1	2	3	4	5
CE3. Browsing online need less time and easily to find the product?					
	1	2	3	4	5
CE4. Online grocery can be done anytime?					
	1	2	3	4	5
CE5. Confirm order take no time at all?					
	1	2	3	4	5

Perceived Risk (PR)

PR1. I trust the retailer?					
	1	2	3	4	5
PR2. I feel safe making purchase online?					
	1	2	3	4	5
PR3. I feel my disclosed personal information while doing online grocery purchase are safe?					
	1	2	3	4	5

Pricing (PG)

PG1. I try to buy items that are on sale?					
	1	2	3	4	5
PG2. I compare prices from different retailers?					
	1	2	3	4	5
PG3. I consider free deliver service or budget bundling on top of the price?					
	1	2	3	4	5

Please kindly choose the ONE with most appropriate description for your answer.

Rank explanation: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Service Quality (SQ)

Strongly
Disagree

Strongly
Agree

SQ1. The retailer shows familiarity to me during service encounters?

1	2	3	4	5
---	---	---	---	---

SQ2. The retailer build a friendly relationship with me during service encounters?

1	2	3	4	5
---	---	---	---	---

SQ3. Delivery of online grocery is following the schedule?

1	2	3	4	5
---	---	---	---	---

SQ4. I found retailer informative during my interactions?

1	2	3	4	5
---	---	---	---	---

SQ5. I feel positive during my online shopping experience?

1	2	3	4	5
---	---	---	---	---

Customer-Purchasing-Intention (PI)

PI1. I am willing to purchase for household?

1	2	3	4	5
---	---	---	---	---

PI2. I have been purchasing on regular basis?

1	2	3	4	5
---	---	---	---	---

PI3. I will not shop again at the same online platform if receiving a negative shopping experience from last time?

1	2	3	4	5
---	---	---	---	---

PI4. I hope online grocery will apply to everyday e-commerce in the future?

1	2	3	4	5
---	---	---	---	---

Appendix – 2

Summary

Case Processing Summary

		N	%
Cases	Valid	230	100.0
	Excluded ^a	0	.0
	Total	230	100.0

Reliability Test – Convenience (CE)

Reliability Statistics

Cronbach's Alpha	N of Items
.851	5

Reliability Test – Perceived Risk (PR)

Reliability Statistics

Cronbach's Alpha	N of Items
.704	3

Reliability Test – Pricing (PG)

Reliability Statistics

Cronbach's Alpha	N of Items
.704	3

Reliability Test – Service Quality (SQ)

Reliability Statistics

Cronbach's Alpha	N of Items
.760	5

Reliability Test – Customer-Purchasing-Intention (PI)

Reliability Statistics

Cronbach's Alpha	N of Items
.737	4

