A STUDY ON CONSUMER'S IMPULSE BUYING BEHAVIOR DECISION: LIVE STREAMING SHOPPING ON CROSS-BORDER E-COMMERCE PLATFORM

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BY

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A final year project submitted in partial fulfilment of the requirement for the degree of

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APRIL 2022

DECLARATION

I hereby declare that:

(1) This undergraduate FYP is the end result of my own work, and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

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

(3) Sole contribution has been made by me in completing the FYP.

(4) The word count of this research report is 14,440 words.

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Date: ___28 April 2022____

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DEDICATION

This dissertation is dedicated to: My supervisor, Ms. Loh Yin Xia for guiding and helping me throughout the whole research study.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CAGR	Compound Annual Growth Rate
CCI	Consumer-Consumer Interaction
CSI	Consumer-Streamer Interaction
df	Degree of Freedom
F	Frequency
IBD	Impulse Buying Decision
KOL	Key Opinion Leader
MCO	Movement Control Disorder
N	Sample Population
POC	Perceived Opportunity Cost
PP	Price Promotion
PR	Perceived Risk
PTL	Promotion Time Limit
P-value	Probability value
R^2	Coefficient of Determination
SE	Standard Error
SMEs	Small and Mid-Size Enterprises
SOP	Standard Operating Procedures
S-O-R	Stimulus-Organism -Response Model
SPSS	Statistical Package for Social Science
VA	Visual Appeal
β	Beta

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PREFACE

In recent years, live streaming shopping has been one of the hottest trends emerging since the pandemic of 2020. Past studies have proven that an increasing number of people are becoming more trusting and at ease when shopping online. Live-streaming shopping is getting more popular in Malaysia. Therefore, it is important to analyse the consumer behaviour in live streaming commerce in order to success in this industry. Unfortunately, there are insufficient study relevant to live streaming shopping in the context of Malaysia. Thus, the proposal to conduct a research study on consumers' impulse buying decision on live streaming shopping on cross-border e-commerce platform in Malaysia.

ABSTRACT

With the rapid growth of the Internet economy and the emergence of e-commerce platforms in recent years, merchandise sales via live streaming commerce have also become widespread. This paper aimed to study the influencing factors of impulse buying decision on live streaming shopping. Through this study, it helped sellers in digital transformation and set as a benchmark for the local seller and marketers to study. Based on theoretical research, this study focusses on factors such as price promotion, promotion time limit, perceived opportunity cost, consumer-streamer interaction, consumer-consumer interaction, visual appeal, impulse buying decision, as well as perceived risk which act as a mediator based on the Stimulus-Organism-Response (S-O-R) model. 254 sets of questionnaires had been collected and analyse through the Statistical Package for Social Science (SPSS). Based on the result, it showed that price promotion, promotion time limit, and perceived opportunity cost have significant effect toward the consumers' impulse buying decision while consumer-streamer interaction, consumer-consumer interaction, and visual appeal have insignificant effect. Meanwhile, perceived risk only had mediation effect between price promotion, promotion time limit, and perceived opportunity cost and impulse buying decision. Nevertheless, it did not play a mediating role between consumer-streamer interaction, consumer-consumer interaction, and visual appeal and impulse buying decision. The finding suggested some marketing strategy for sellers which includes establish of suitable pricing promotion techniques and variety of techniques to lower the level of perceived risk of consumers.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

The world was dramatically impacted by a coronavirus epidemic towards the end of 2019, with no vaccination available to protect the public from infection. On March 18, 2020, Malaysia adopted the movement control disorder (MCO) to avoid the growth of the coronavirus epidemic in Kuala Lumpur. As a result, the MCO implemented several laws and standard operating procedures (SOPs) that all Malaysians must follow in order to limit travel and gatherings. Since most individuals could not travel anyplace except to purchase groceries and other essentials, the online platform had become shopping option. For safety concerns, many prefer to purchase online instead of offline or in-person to prevent becoming infected with the COVID-19 virus (Mohamad Shariff & Hamid, 2021). Therefore, live streaming shopping is becoming more popular. The goal of this study is to figure out what factors influence customer impulse decisions when it comes to live streaming shopping

1.1 Research Background

In recent years, live streaming shopping has been one of the hottest trends emerging since the pandemic of 2020, as merchants and brands adopt this digital strategy to engage with the consumers (Zhong et al., 2022). Based on the research from McKinsey (2021), live commerce has expanded quickly in China, mainly dominating with Generation Z and millennials although beginning is to engage middle-aged and older consumers. There are 265 million individuals had engaged live commerce, representing for about 30% of Chinese Internet users (McKinsey, 2021). With 35% of market share, Taobao continue to be the biggest player in the world. The compound annual growth rate (CAGR) of live-streaming shopping is more than 280% from 2017 to 2020 as shown as the figure 1.1 below (Greenwald, 2020).

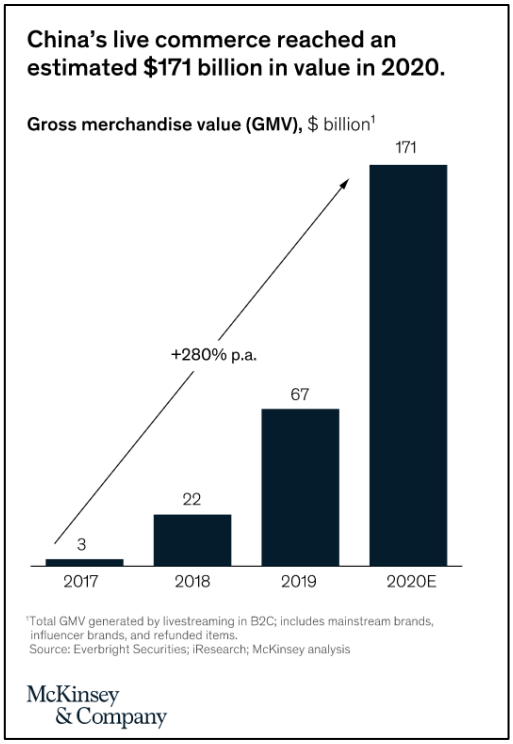


Figure 1.1: CAGR of Live Commerce.

In Malaysia, e-commerce business has accelerated in recent years which driven by an increase of internet penetration to 89%, higher than other southeast Asian countries (J.P. Morgan, 2019). Overall, the net sales of e-commerce market in Malaysia have contributed US$712mn. Compared to the 2018, the net sales growth of e-commerce market in 2020 has grown 68%. Electronic and media is the biggest category based on the Malaysian net sales. Additionally, the top 5 Malaysian online stores by net sales are Shopee, Apple Store, Watson, followed by HiHonor and Zalora (Shaulova & Biagi, 2021). Moreover, for the online shopper in Malaysia, the number of e-commerce users is expected to raise by 27% which is 18 million users in Malaysia by 2025 and 31% of online shoppers have a high household income. Clothing, food and drinks, shoes are the top 3 interests of online shoppers but online shoppers in Malaysia often search online for consumer electronic and clothing. The phenomenon of livestreaming is continually grown in Malaysia (Shaulova & Biagi, 2021). Hence, it also indicates that many businesses were drawn to the potential of live-streaming e-commerce. In Malaysia, many retail e-commerce platforms are starting to introduce the new live-

streaming tools to their sites in response to the rapidly rising trend. For instance. Lazada's mobile app has now includes a function of live-streaming sale feature similar with its parent company, Alibaba (The Star, 2019). As a result, it is critical for today's marketers to understand e-shoppers' online purchase habits., especially in live streaming shopping.

1.2 Problem Statement

In 2020, the government has implemented the Movement Control Order (MCO) in several parts of the country due to the continuously increase of Covid-19 cases. Until today, many businesses and economy have been significantly affected by the MCO 3.0. Hundreds or even thousands of business and small and mid-size enterprises (SMEs) are impacted by the Covid-19 epidemic due to the unsuccessful of digital transformation. In Malaysia, there are 25% of SMEs had faced the closure risk (Justin, 2020). Indeed, majority of SMEs (57%) have yet to begin their digital transformation initiatives. Financing and digitalization cost is one of the main challenges faced by the SMEs such as cost related with subscription fees for digital hardware and software, internet connectivity, and so on (SME Corp, 2021). Many businesses are still vulnerable and do not have enough monetary reserves to survive without government assistance (Vaghefi, 2021). According to McKinsey (2021), to stay competitive in this changing economic climate, the Covid-19 have accelerated the integration of digital technology. Consumer have transformed their purchase behaviour from physical to online shopping. Even some business owners have jumped on the livestream marketing trend (Sang, 2020).

Live-streaming commerce, which combines "live streaming + social + e-commerce," has developed as a new business model in recent years, associated with the rapid advancement of mobile communication technologies. Online purchasing has advanced beyond simply clicking on a shopping platform as buyers' desire for real-time involvement develops. Live-streaming shopping is getting more popular in Malaysia,

due to the various platforms, and more stores are embracing the latest digital trend to reach tech-savvy customers. Big online retail platforms are introducing new live-streaming services to their platforms in response to the rapidly rising trend (The Star, 2019). For example, Lazada and Shopee had started to introduce the livestream shopping feature that provide sellers and shoppers to demonstrate their product in real time (Ballesteros, 2021). Nonetheless, majority of the study focus on the context of live stream commerce in China but there is insufficient study on impulse buying live streaming shopping in the Malaysia context because the trend of live streaming shopping in Malaysia is just starting to rise (Zahari et al., 2021). In conclusion, the lack of previous literature on live-stream shopping highlighted the necessity for further study in this field in attempt to offer meaningful insight into the scope of live-stream commerce in Malaysia.

In addition, there is the possibility of a privacy risk during the process of online streaming shopping. The number of online shoppers has risen since more and more online businesses emerge in this live streaming commerce market. According to the Prime Minister Tan Sri Muhyiddin Yassin, the number of fraudulent offers and transactions is expanding at an alarming rate. For instance, some shoppers did not manage to receive their purchase goods because of buying product from fake seller or merchant on the online platform. Not only that, but it has also become more common for online shops to take advantage of their shoppers by implementing unethical or even illegal advertising or marketing strategies to acquire more consumers (Yusof, 2021).

1.3 Research Questions

1.3.1 General Question

1. What are the inferential factors that affect the consumer impulse buying behaviour during live streaming shopping?

1.3.2 Specific Questions

1. What are the inferential factors that impact the consumer impulse buying decision during live streaming shopping in Malaysia?

2. What is the relationship between Organism factors (Perceived Risk) toward Response (Impulse buying decision)?

3. Does Organism factors (perceived risk) have mediating effect between Stimulus factors like consumer-streamer interaction, consumer-consumer interaction visual appeal, promotion time limit, perceived opportunity cost, and price promotion toward Response factor (Impulse buying decision)?

1.4 Research Objectives

The current research aims to explore how stimulus factors impact on the impulse buying behaviour (Response) and perceived risk as mediator (Organism) on the relationship between stimulus factors and impulse buying decision on live streaming shopping. This study embarked on the following objectives:

i. To examine the inferential factors that impact the consumer impulse buying decision during live streaming shopping.

ii. To study the relationship between Organism factors (Perceived Risk) toward Response (Impulse buying decision).

iii. To study the Organism factors (perceived risk) has mediating effect between Stimulus factors such as consumer-streamer interaction, consumer-consumer interaction visual appeal, promotion time limit,

perceived opportunity cost, and price promotion toward Response factor (Impulse buying decision).

1.5 Research Scope

This research investigates the impulse buying behaviour on live streaming shopping by using the S-O-R (Stimulus-Organism -Response) model. Therefore, the figure 1.4 below shows the 4 domains: SOR model, impulse buying behaviour, e-commerce, and live streaming shopping. For this study, the largest e-commerce platform in China. Taobao had been chosen as the case study. The sample of this study is individual who ages 18 and above and had experience in live streaming shopping on e-commerce platform in Malaysia.

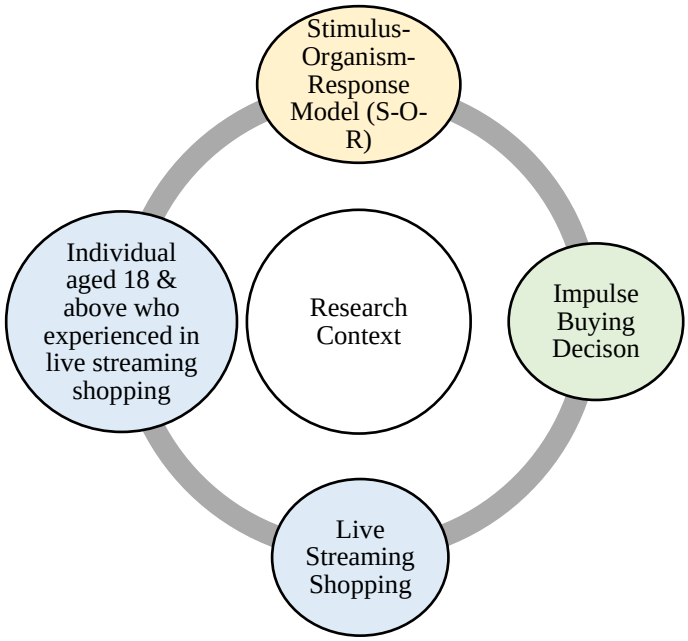


Figure 1.4: Scope of Research

1.6 Research Significance

Firstly, this research also important in saving time and cost for live stream commerce seller. Seller can be based on this research and enhance their live streaming strategy in order to attract more audiences. Throughout the study, the extension of future research aids in providing a clearer image of the factors that contribute to the occurrence of impulse purchase behaviour in live streaming shopping for researcher. Nevertheless, many businesses have lack of time and expertise to get ready the digital transformation. Therefore, it can lead to a deeper understanding of consumer behaviour in live streaming shopping in Malaysia through conducting this research.

1.7 Contribution of Study

As mentioned previously, the acceleration of the adoption of digital technology is due to Covid-19 pandemic. The imposition of MCO in Malaysia had affect the SMEs moving their operation to online in order to sustain their business. Nevertheless, many businesses have lack of time and expertise to prepare this transition well. Throughout this study, it will help sellers in digital transformation by having a deeper understanding their audience's purchase behaviour. Not only that, but it will also contribute additional marketing approaches and communication strategies in live stream commerce to both offline and online retailers and sellers. It enables them enhance market needs for future and contribute suggestion based on the data collected.

Through the success of Taobao in live streaming commerce market, it can set as a benchmark for the local seller and marketers to study. Local sellers are able to understand well on how the environment stimuli such as price promotion, visual appeals, and others that impact the impulse buying decision of the consumer in live streaming shopping. This research aids the local seller and marketer in determining the flaw between the shoppers and the live-streaming system in order to guarantee short-term profit by increasing sales for a set period. It may also aid the merchant to secure long-term profit such as favourable word of mouth and repurchase.

This research objectives are to fill the gaps as well as provide to the literature for academics and future scholars interested in pursuing research in this topic. This study aid researchers in instilling knowledge of live streaming shopping to students, as well as future researchers in developing a deeper understanding and insights into impulsive purchase behaviour through live streaming shopping. This study can be used as a guide by researchers who want to develop or perform similar research in the future to assure that their data is reliable.

1.8 Summary

In short, the research background, problem statement will be discussed in this chapter. Following the formation of the research aim, the research's direction has been established. The research significance established the research usefulness as well as the contribution of this study to the local sellers and marketers. In the following chapter, the suggested conceptual framework and variables will be further examined.

CHAPTER 2: LITERATURE REVIEW

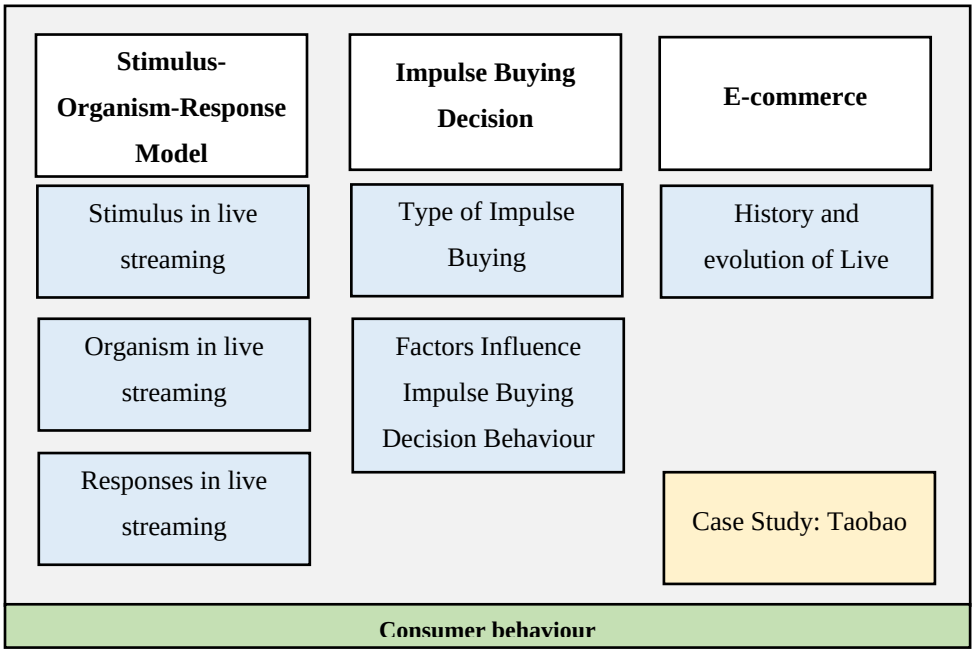
2.0 Introduction

Stimulus-Organism-Response (S-O-R) model will be constructed to determine the factors that will influences the impulse buying decision in live streaming commerce. A detailed review of factors based on relevant previous literatures, as well as the hypotheses and conceptual framework created, will be examined further.

2.1 Underlying Theory

In this research, S-O-R model such as Stimulus, Organism, and Response factors will be discussed in later section. Furthermore, type of impulse buying, factors influence impulse buying decision will be covered under impulse buying decision. History and evolution of live streaming commerce also will be discussed. The figure 2.1 below showed the elements that considered in this research.

Figure 2.1: Elements that considered in this research.



2.1.1 Consumer Behaviour

The investigation of how people make buying decisions with the goal of supporting businesses and marketers in capitalising on these behaviours by forecasting how and when people will spend is known as consumer behaviour theory (Fast Pay, 2021). There are different types of buying behaviour such as extensive decision-making, limited decision-making, impulse buying, and routine response. Firstly, routine response is defined as consumers will buy a brand when they tried before and familiar with. Moreover, Mid-level and infrequent purchasing decisions share similar characteristics. Before making a decision, they conduct additional research and consideration. Extensive decision-making refers to spend a lot of time in investigation before decision are being made. Normally includes big financial investment (Fast Pay, 2021). When a purchase is made with no prior planning is defined as impulse buying. However, this research will focus on impulse buying on consumer behaviour theory.

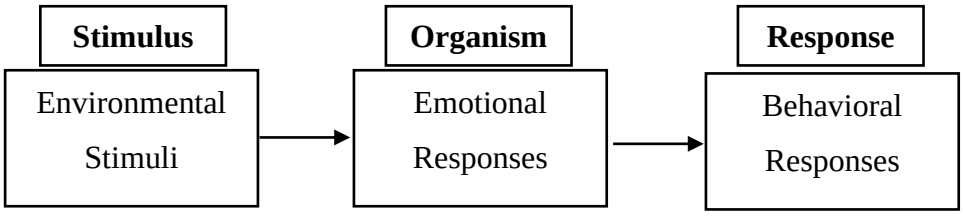
2.2 Research Model

2.2.1 Stimulus-Organism-Response Model (S-O-R)

Mehrabian and Russell (1974) are the researcher who initially developed the S-O-R model in the environmental psychology field. It indicates an emotional (organism) and cognitive process of an individual are triggered by the stimulating cues, leading in approaching behaviours (response) (Mehrabian & Russell, 1974). The figure 2.2 below show the S-O-R Model. The stimulus refers to an aspect that can induce changes in a cognition and emotion of a customer in the shopping environment and its display (Huang & Suo, 2021). The second element is organism which comprise of whole consumer process

that occur between stimulus and response (Xu et al., 2020). An organism is an element that connects the exterior stimulus to the end reaction. The behavioural consequence of the stimulus object's final approach is called response, and it comprises both psychological and behavioural responses.

Figure 2.2: SOR Model



Adapted from: Mehrabian, A., & Russell, J. A. (1974). The basic emotional impact of environments. *Perceptual and Motor Skills*, *38*(1), 283–301. https://doi.org/10.2466/pms.1974.38.1.283

Meanwhile, it has shown that the S-O-R model is clearly applicable live-streaming shopping study environment. This is partly because many past studies about the online consumer behaviour have been successfully applied by using S-O-R model. In an online retail setting, previous research has continually studied that relationship between cognitive and emotional process of a consumer as well as the consequential behaviours (e.g., Eroglu et al., 2001; Lee et al., 2021; Chen & Yao, 2018; Ming et al., 2021).

2.3 Review Variables

2.3.1 Stimulus in Live Streaming Shopping

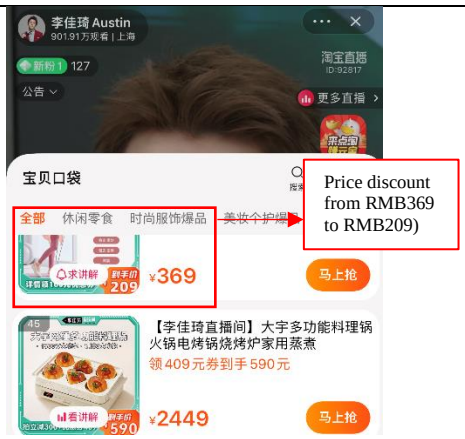
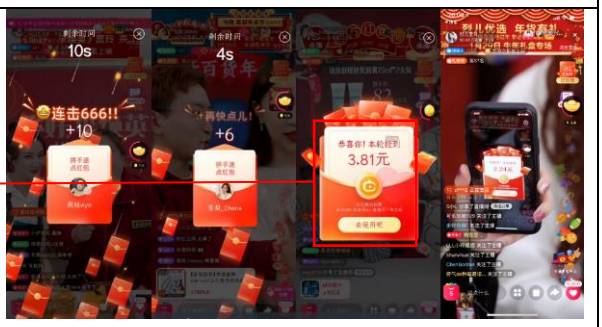
2.3.1.1 Price Promotion

In this study, we define price promotion is a typical marketing approach that involves keeping a product's price low for a short

period in order to gain sales volume and customer loyalty (Profitwell, 2021). There are mainly two type of promotion which include direct and indirect price discount. Direct price discount is lowering the sales price of items like coupon, discount, and so on while indirect price discount refers to achieve by providing more money or items in addition to the initial price of the item, like free gift or product quality warranty (Zoellner & Schaefers, 2015). Moreover, direct price promotion in live streaming commerce context includes coupon, new customers discount, price discount, “Hong Bao Yu”, and so on. On the other hand, additional gift is included in indirect price. Below table 2.1 shows different price promotion from Taobao Live.

Table 2.1: Screenshot of different type of price promotion from Taobao Live

Price Promotion	**Screenshot from Taobao Live**
Direct price promotion: Coupon	
Price discount	

	
New customer discount	
"Hong Bao Yu"	
Indirect price promotion: Free Gift	

Source: Developed for the Research

2.3.1.2 Time Pressure

According to Liu (2017), time pressure is defined as individual who rushing time to solve an issue or to make a good judgement. Consumers' psychological stress levels have been observed to rise while making decisions under time pressures. In general consumption, time pressure can be separate into two viewpoint which are time limitation and perceived opportunity cost. According to Huang & Suo (2021), individual emotional and psychological changes would be affected even more as a result of time pressure. While another viewpoint is that time pressure is directly tied with the perceived opportunity cost. Individual will give up purchasing or postponing their choice and experience anxiety because of perceived opportunity loss, resulting in time pressure.

In the live streaming shopping conditions, since the live commerce uses the method of flash sales, the discount in the live streaming broadcast room is more powerful than the traditional online promotion. Most importantly, the promotion in the live streaming room is limited and stopped immediately after the time is over. Hence, the promotion time limit will create time pressure to shoppers. The promotion time limit will convey a signal to consumers that they must decide quickly since the promotion time given is very short. Secondly, consumers will not get any preferential price or extra gift when the promotion ends since the discount only available in live streaming during that period. If consumers make a decision to abandon the purchase or delay in making decision, consumers will perceive the loss of opportunities. As can be seen in the figure 2.3 below, it shows that consumers have to purchase immediately in given time in order to enjoy the discount at a low price.

Figure 2.3: Promotion time limit in Taobao live

2.3.1.3 Interpersonal Interaction

A communication where two or more-person exchanging information and feelings both verbally and nonverbally is called interpersonal interaction (Hu, 2018). Interaction has the potential to reduce transactional distance and aid in mutual understanding (Huang & Suo, 2021). Similarly, there are two aspects in the live streaming shopping context which includes consumer to streamer interaction and consumer to consumer interaction.

Live stream commerce is not the same as live television channels. It wasn't just a simple content output through live, but also a real-

time and two-way engagement process developed by network technology between streamers and buyers in the same live broadcast room. Thus, the interactive setting of live stream commerce is made up of the live streamers, consumers, and real-time information in the live broadcast room. The interaction of live e-commerce comprises both traditional network interaction attributes and some innovative features and contents because live stream commerce is an upgrade of traditional e-commerce. First and foremost, live streaming commerce interaction also has maintained an openness, anonymity, and virtuality environment of online interaction. Shoppers in the live broadcast room possess virtual identities and can interact with one another by sending text information. Shoppers in the live broadcast room are anonymous to one another, and they only manage to see the nicknames, fan levels, and interactive content of other consumers. The figure 2.4 below shows the examples from Taobao Live. For example, Taobao live also had the features that allow consumer to accomplish missions in order to upgrade their fans level to get additional discount or red pocket as shown in the figure 2.5 below. Next, streamers and shoppers can interact through draw price, likes and so on which boost the fun of the live broadcast room. Additionally, the interaction between the streamers and shoppers will get real-time feedback (Ma et al., 2022). In live streaming commerce, the real-time interaction makes shoppers to feel present and promote the quality of interpersonal interaction atmosphere. Lastly, the live broadcast room can fit in wide audience, and the live broadcast room has a large capacity, which can accommodate thousands of fans or even more individuals to speak and interact in the live broadcast room at the same time.

Figure 2.4: Real time interaction from Taobao Live

Figure 2.5: Different value of red pocket for different fans level

2.3.1.4 Visual Appeal

Visual appeal is referred as sensory marketing can encourage emotions in customers, impact their perception and judgement, and consequently influence their behaviour. As an incentive variable, it can instantly draw shoppers' attention and enhance

consumption which lead to change in cognitive and psychological (Huang & Suo, 2021).

Shoppers can enjoy a high-definition and real time live video experience with live stream commerce. The contrast between traditional online shopping and traditional online shopping in terms of accessing product details is that traditional online shopping is done with flat information including photographs and text. Although some items provide short videos for product display, it is hard for shoppers to properly comprehend product information in a short video display. Nonetheless, in live streaming context, product display comprises not just information like text, videos, photographs found in online shops, but also showcases items to shoppers in real-time three-dimensional live, supporting with clothing trials and explanation of products. Shoppers can get a clearer understanding of a product's appearance and functionality by trying it out by the streamers. All these can be shown in the figure 2.6 below. In general, the visual appeal in live streaming commerce cover three aspects including try-on and multi-angle video display of the products, text introduction, pictures, and overall environment layout of the live broadcast room.

Figure 2.6: Visual Appeal from Taobao Live

2.3.2 Organism in Live Streaming Shopping

2.3.2.1 Perceived Risk

The spirit cost connected with consumers' purchasing behaviour, which indicates a form of future uncertainty, is referred to as perceived risks (Zhang & Yu, 2020). Geetha & RanGaRajan (2015) defines perceived risk as the consumer's perception of uncertainty when he or she cannot predict the implications of a purchasing choice and distinguishes the sorts of bad occurrences that might occur in terms of social, financial, psychological, physical and performance related risk. According to Zhang and Yu (2020), the perceived risk in online purchasing is the uncertainty and loss that buyers subjectively perceive during the

online shopping transaction. As a result, throughout the purchasing process, the perceived risk does not occur objectively, but rather is based on the consumer's subjective perception of the risk. Only when the consumer perceives the risk will it affect their purchasing decision and behaviour. According to Gazali and Suyasa's (2020) research, perceived risk is the most significant key barrier in the purchasing choice process, and it has a direct impact on consumers' buying decisions.

2.3.3 Response in Live Streaming Shopping

2.3.3.1 Impulse Buying Decision

Based on definition from Lee & Chen (2021), an unexpected, unplanned, persuasive, and hedonic buying behaviour is referred as impulse buying. Chen & Yao (2018) stated that impulse buying is defined as a sudden, unconsidered buying decision performed by customers in response to a strong and compelling stimulus in their shopping environment. There are mainly four types of buying impulse such as suggestive impulse, reminder impulse, planned impulse, and pure impulse. Pure buying refers to shoppers depart from their usual purchasing patterns to make a one-time novelty purchase (Zhang et al., 2018). Reminder impulsive purchase involves the recollection of experience or information about goods, which needs the use of cognitive effort. When a shopper finds a new product and imagines a need for it, this is known as suggestion impulsive purchasing. In comparison to pure impulsive purchases, suggestion impulse purchases may be more of a relationship process than an emotional reaction (Zhang et al., 2018). Planned

impulse purchasing is a type of impulsive buying that is somewhat planned and relates to people who are looking to make purchases outside of their shopping goals and look for special offers (Zhang et al., 2018). Much study has proven how the website interface influences impulse purchase decisions in the past (Chen & Yao, 2018; Chen & Yao, 2018; Huang & Suo, 2021; Lee & Chen, 2021).

Factors that influence the impulse buying behaviour can be categorized into two aspects which are internal and external factors. External elements of impulsive purchasing are marketing signals or stimuli presented and managed by the marketer in an attempt to encourage customers to make a purchase (Dawson & Kim, 2009). For external factors, the scenario during the whole purchasing process, involving marketing, interaction, time, product, environment, and others is referred as situational factors (Huang & Suo, 2021). On the other hand, internal variables of impulsive purchasing investigate at an individual's internal cues and characteristics that lead to impulsively purchases. (Dawson & Kim, 2009). Lack of emotion, hedonism, and control are the personal factors that tightly related to consumer impulse buying behaviour (Huang & Suo, 2021). In live streaming e-commerce, which is a new business model founded on the principles of traditional e-commerce, the affecting variables described above have a strong impact on customers' impulse buying decision.

2.4 Research Domain

2.4.1 Evolution of Live Streaming Shopping

Table 2.2: Evolution of live streaming commerce

Infancy phase (2016)	**March:** Mogujie launched the feature of live streaming commerce **May:** Taobao began to launch live broadcast function; Kuaishou launched live broadcast function **July:** Suning starts live broadcast function **September:** Jingdong starts live broadcast function
Growth phase (2017-2018)	**2017** **April:** E-commerce live broadcast MCN agency Qianxun was established **November:** Douyin launched live broadcast function; during the same period, Taobao live broadcast accumulated more than 100 million views in a single day. **2018** **March:** Amazon launched live broadcast function **May:** Douyin launched the online store and began to test the live broadcast. **June:** Kuaishou launched small online store **December:** Douyin officially opens for "shopping cart" function
Rapid development phase (2019-present)	**2019** **February:** Taobao launches Taobao Live APP **April:** WeChat piloted live broadcast e-commerce **August:** Kaola launched live broadcast function **November:** Tmall double 11 turnover is nearly 20 billion yuan, and more than 50% of the merchants participated in the live broadcast **2020 – Present** **January:** Pinduoduo live officially launched **April:** Xiaohongshu launched live broadcast function. Live stream commerce exceeded 1 trillion yuan of gross merchandise value.

Sources: Vinky. (2020, October 12).

The table 2.2 above show the evolution of live streaming shopping from infancy phase (2016) until the rapid development phase (2020 – present). In infancy phase (2016), The e-commerce platform has launched the "live broadcast + content + e-commerce" model, seeking to lower the cost of attracting new customers and expecting to break the traffic bottleneck with the help of live broadcast (Vinky. 2020).

Taobao Live, Mogujie, and other platforms collaborated with MCN institutions to encourage the development of the live broadcast e-commerce business throughout the growth period (2017-2018). At the same time, short video platforms like Douyin and Kuaishou had also entered to leverage traffic to monetize through live broadcast and pressing the accelerator button for the live broadcast e-commerce industry (Vinky. 2020).

In 2009 until present, many e-commerce and content platforms such as Koala and Xiaohongshu have successively launched the live broadcast functions. Coupled with the development of the home economy in China under the new crown epidemic, the penetration rate of live broadcast e-commerce has continued to increase (Vinky. 2020).

2.4.2 Type of live streaming commerce

Table 2.3: Comparison of different type of live streaming commerce

	Traditional e-commerce platform	**Entertainment content platform**	**Shopping guide community platform**
Characteristic	The variety of goods is rich, the supply chain is relatively complete, and live	The traffic advantage is obvious, and streamers monetize	It has both the attributes of e-commerce and entertainment content, and realizes the

	broadcast is used as a tool for new conversion	their traffic and optimize the advertising-based profit structure.	expansion of shopping guide scenarios through live broadcast
Streamer Category	Mainly based on KOL or host of the shop.	Mainly by KOL	Mainly dominated by shopping guide, streamer
User portrait	Consumption-oriented	Entertainment oriented	Product recommendation
Product	Rich SKUs	Mainly normal or branded products	Normal brand products
Example platform	淘宝网 Taobao.com	抖音	蘑菇街
	Shopee	facebook	

Source*:* Developed for the Research

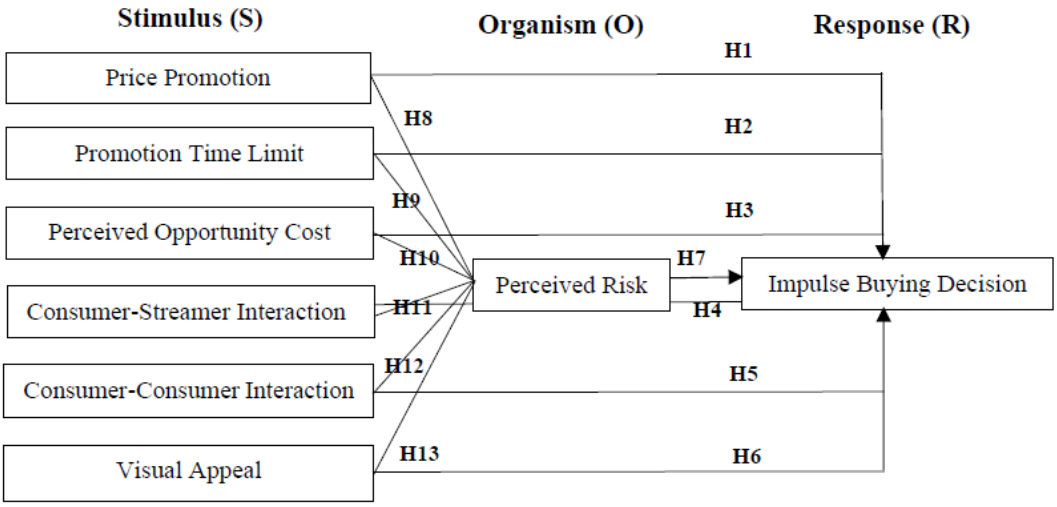
Traditional e-commerce platforms are represented by Taobao; entertainment content platforms are represented by Douyin; and shopping guide community platforms are represented by Mogujie in the live broadcast e-commerce environment as shown on the table 2.3 above.

2.5 Conceptual Framework

Figure 2.7 indicates the research framework of this study. In this study, SOR model is adopted to analyse the factors that will impact consumer impulse buying decision in live streaming commerce.

PP, PTL, POC, CSI, CCI, and VA are suggested as independent variables (Stimulus) that will impact the impulse buying decision (Responses). In addition, perceived risk (Organism) will act as the mediator between the Stimulus factors and Organism factor.

Figure 2.7: Research Framework



2.6 Hypotheses Development

2.6.1 The relationship between Price Promotion (PP) and Impulse Buying Decision (IBD)

There are several impacts that influence impulse purchases decision of consumers during the purchase process, but consumers' spontaneous purchasing behaviour is likely to be affected by price incentives. That was because pricing has a big influence on people's buying decisions, primarily if they are price sensitive. According to Huang & Suo (2021), the research indicates that there a positive and significant correlation between price promotion and impulse buying decision in live streaming shopping in Taobao from Chinese users. Hosseini et al (2020) states that price promotions had a positive relationship toward impulsive buying behaviour in goods of Isfahan.

This show that price promotion in live streaming shopping context is essential in stimulating impulse buying decision. Therefore,

H1: There is a significant relationship between PP and IBD.

2.6.2 The relationship between Time Pressure and Impulse Buying Decision (IBD)

Huang & Suo (2021) discovered that when customers are under a lot of time pressure, regardless of the style to which they are assigned, the quality of their decisions declines. In contrast to Dani-Elkebir (2011), who claim that impulsive purchases are commonly made in the first five minutes of shopping and that the likelihood of their being fulfilled reduces as time passes. According to Zhang et al (2022), the shorter the promotion period, the stronger the customers' perception of opportunity cost and the larger their cognitive reaction to the offer's perceived value. Dani-Elkebir (2011) examine the situational factors that there is a significant effect between time pressure and impulse buying behaviour of Algerian. The promotion's time limitation has a positive relationship on the consumers perceived value in the context of live commerce (Zhang et al, 2022). Huang & Suo (2021) also believe that perceived opportunity cost will positively impact the impulse purchase decision. As a result, the following hypotheses are proposed:

H2: There is a positive correlation between Promotion Time Limit (PTL) and IBD.

H3: There is a positive correlation between Perceived Opportunity Cost (POC) and IBD.

2.6.3 The relationship between Interpersonal Interaction and Impulse Buying Decision (IBD)

Interpersonal interaction has a direct impact on customers' impulsively purchases. Buyer feedback on products will drive consumers to make an urgent purchase. On the other hand, interpersonal interaction has an indirect influence on customers' impulsive purchase behaviour. Customers' impulse buying decision is strongly influenced by the interactions in online communities, where emotion and cognition play a mediating role. The engaging environment of online communities would have a good impact on community members' community awareness and further enhance customers' impulsive buying behaviour (Huang & Suo, 2021). The virtual brand community interaction like interpersonal interaction, human-machine interaction, and information interaction will positively impact on impulse buying decision of shoppers (Liu & Liu, 2020). Huang & Suo (2021) also believe that both consumer to streamer interaction and consumer to consumer interaction will positive impression towards impulse buying decision. Hence,

H4: There is a significant relationship between consumer-streamer interaction (CSI) and IBD.

H5: There is a significant relationship between consumer-consumer interaction (CCI) and IBD.

2.6.4 The relationship between Visual Appeal (VA) and Impulse Buying Decision (IBD)

In today's competitive marketplace, businesses seek to attract customers and keep them in the shop. Consumers may explore goods through real-time live streaming provided by live streaming e-commerce companies. Consumers' curiosity may be stimulated by streamers' displays and explanations of goods, as well as apparel fittings and cosmetics trials, which can stimulate their interest, excite their attractive associations, and subsequently excite their desire to buy. Gudonavičienė & Alijošienė (2015) proposed that visual merchandising elements such as in-store design, store layout, store atmosphere will create a positive relationship on impulse buying behaviour. Visual appeal such as

clothing and cosmetic trial, explanation will significantly influence the impulse buying decision (Huang & Suo, 2021).

H6: There is a positive relationship between VA and IBD.

2.6.5 The relationship between Perceived Risk (PR) and Impulse Buying Decision (IBD)

The degree of willingness or desire to buy a product affects the link between perceived risk and impulse buying. Consumers' emotions and feelings prevent the product from being perceived as risky. When a consumer's willingness to acquire a product is low, perceived risk has an impact. The emotion and feeling of the consumers will prevent the product from being perceived as risky. When a consumer's willingness to acquire a product is weak, perceived risk has an impact (Akter, 2016). Abrar et al (2017) also believe that Consumers' perceptions of risk are the most significant barrier in their purchase decision-making process, and they have a significance on a shopper's impulse purchase decision. Shoppers' online impulse buying are appeared to be negatively influenced by perceived risk, while a lower degree of risk perception corresponds to a preference for online shopping. Thus, hypotheses are proposed as below:

H7: There is a negative correlation between PR and IBD.

2.6.6 Perceived Risk (PR) mediates the relationship between Price Promotion (PP) and Impulse Buying Decision (IBD)

Customers' perceptions of product performance risk rise when they purchase online since they have did not have the chance to see the real items before purchase, and so a greater possibility of failure to satisfy customers' product performance expectations and in turn lower the impulse buying.

Therefore, consumers may be afraid that the items are lower quality, obsolete, or malfunctioning when a price discount is significantly larger than the average discount size. This may lead to enhance customers' product performance risk perceptions for unreasonably high price discounts and decrease their desire to buy. Eun Lee & Stoel (2014) stated perceived risk would mediate the relationship between price promotion and impulse behaviour. Huang & Suo (2021) also believed that the consumers' perceived risk will negatively influenced by price promotion and mediate the relationship between price promotion and impulse behaviour.

H8: PR mediates the relationship between PP and IBD.

2.6.7 Perceived Risk (PR) mediates the relationship between Time Pressure and Impulse Buying Decision (IBD)

The degree of abstraction in people's mental representations of objects is determined by psychological distance. Customers may feel a larger sense of time pressure in a promotion situation, resulting in a psychological gap between them and the goods. Because the consumer's perceived risk is lower in this condition than it is when there is less time constraint, the promotion time restriction may help to minimise the consumer's perceived risk and boost the impulse buying (Zhang et al., 2022). Furthermore, if shoppers did not make purchase during the promotion time limit, there will be an opportunity cost. Shoppers will highlight perceived benefits and minimise perceived risks. This is because of the promotion time limit and the perception of opportunity cost (Huang & Suo, 2021). Hence, the hypotheses are proposed as below:

H9: PR mediates the relationship between PTL and IBD.

H10: PR mediates the relationship between POC and IBD.

2.6.8 Perceived Risk (PR) mediates the relationship between Interpersonal Interaction and Impulse Buying Decision (IBD)

According to Sun et al (2010), if a seller has greater engagement with customers, it can minimise perceived risk while simultaneously encouraging consumers to join more in purchasing online. Past study stated that the more interaction between the consumer and the streamer, the greater the confidence in the streamers to the reduced the customer's perceived risk. Customers may discover more about the features and functionality of items by interacting with streamers in a live streaming purchasing setting, which reducing the knowledge gap and uncertainties, and lowering the perceived risk of the customer. Interactions between consumers and streamers and consumers may improve their mutual trust. Consumers' perceptions of risk may be reduced and hence boost their purchase decision because of the presentation of items by streamers and feedback from other consumers. (Huang & Suo, 2021). Hence proposes the following hypothesis:

H11: PR mediates the relationship between CSI and IBD.

H12: PR mediates the relationship between CCI and IBD.

2.6.9 Perceived Risk (PR) mediates the relationship between Visual Appeal (VA) and Impulse Buying Decision (IBD)

According to Huang & Suo (2021), the more information shoppers receive and the higher the perceived quality of that information, the lower their perceived risk. Through clothing try-ons and product demos, live streaming e-commerce may show customers the features of items. Next, the streamer's description of the item may give shoppers a good impression of the product's quality and usefulness, which reducing the perceived risk. Furthermore, since seller present and explain about the product characteristics and features, shoppers may

completely understand the product quality, minimize perceived risks, and therefore motivate purchase decisions. As a result, we present hypotheses.

H13: There is a negative correlation between VA and PR.

2.7 Summary

This chapters discussed the variable, research framework and hypotheses development. In the section of review of variables, many studies were related with the factors that will influence the consumer buying decision in live streaming shopping. S-O-R model had proposed to associate with independent variables, mediator, and dependent variable. Methodology will be examined in the next chapter.

CHAPTER 3: METHODOLOGY

3.0 Introduction

This chapter will discuss the overall of research methods and procedures for collecting data and information to make better decisions and, ultimately, to accomplish the research's goals and objectives.

3.1 Research Design

The research design process demonstrated a strategy of analysing, collecting, and interpreting data so that the information needed can be delivered in a more systematic and efficient manner (VirginiaTech, 2018). In this section, quantitative research method will be chosen instead of qualitative research method. This is partly because this approach tends to be more deductive and fixed. This method enables researcher to use data collected to test the hypotheses about relationships between dependent variable and independent variables of impulse buying behaviour in live-streaming shopping. Quantitative approaches are also appropriate for large sample sizes of target respondents and contains multiple types of analysis and measurement. Since the data obtained is numerical and evaluated using mathematical and statistical approaches, a quantitative approach is suitable to utilise in this study (Asenahabi, 2019).

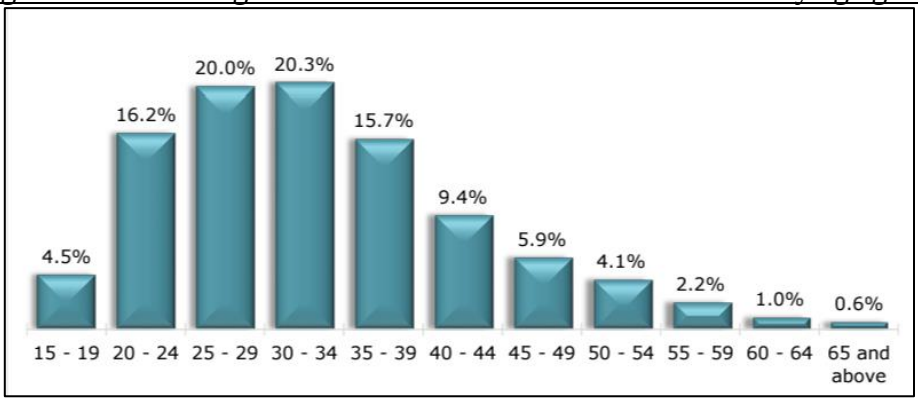
Moreover, descriptive approach is used in this research. With the using of descriptive design, it can analyze one or more variables using a range of research methodologies as well as determine trends, characteristics, categories, and frequencies. Despite experimental research, the researcher does not affect or change the variables; instead, they are measured and observed (McCombes, 2020).

3.2 Sampling Design

3.2.1 Target Population

For this research, individual who are aged 18 above and have experience in purchasing goods through live streaming shopping in Malaysia are the targeted respondents. Based on the Malaysian Communications and Multimedia Commission (MCMC) (2018), the study indicates the Malaysia has 51.2% of e-Commerce consumers. It highlights the demographic profile of young adults between the ages of 20 and 34, which accounted for 56.5% of the respondents. Adults aged 35 to 49 years old were the second biggest group, representing for 31.1 % as shown below in the figure 3.1. (MCMC, 2018). Those e-commerce consumers were the target population in this study.

Figure 3.1: Percentage distribution of e-Commerce consumers by age group



3.2.2 Sampling Frame and Sampling Location

According to Taherdoost (2016), sampling frame is referred to a set of elements from which sample will be drawn. Sampling frames are not employed since any individual who aged 18 and above and had experience in live-streaming shopping can be involved in this study. Not only that, since non-probability sampling is not adopted, survey frame is not require.

3.2.3 Sampling Technique

In this research, convenience sampling, a non-probability strategy, is applicable. The reason for utilising this method is that researchers may easily find the online questionnaire using Google Form and distribute it to a certain page such as Facebook. This may assist the participant in filling up the gaps in their perspective of their spare time. Hence, consumers may contribute their information more easily with this strategy, which also enables the data gathering process much easier.

3.2.4 Sampling Size

The target population in this research are individual who aged 18 and had experienced in live-streaming shopping in Malaysia. Nevertheless, determining the size of the study's target population is challenging. According to Iddagoda (2021), it indicates that sample size should be at least 10 times of the number of variables in the quantitative analysis. There are 6 independent variables and 1 mediator with 3 items each (refer to calculation below). Therefore, 210 respondents will be targeted in this study.

[(6 IVs x 3 items) + (1 Mediator x 3)] x 10 = 210 respondents

3.3 Data Collection Methods

3.3.1 Primary Data

Primary data has been adopted in this study since it is the most typical, successful, and efficient method of gathering reliable data from a big group of people (Glen, 2021). In this study, an online questionnaire through Google Form is setting up for the purpose of data collection. The questionnaires have

distributed to 254 respondents who have experienced in live-streaming online shopping in Malaysia. Nonetheless, only 196 sets of questionnaires were usable since there are 58 respondents does not have experienced in purchasing product from live-streaming shopping.

3.4 Research Instrument

3.4.1 Questionnaire Design

Method of questionnaire which is Google Form had been used for this study. The first page of the questionnaire is supported with a cover page that includes the researchers' names and contact information, as well as a personal data protection declaration to encourage respondents to complete the survey.

The questionnaire includes total of 32 items. There are 2 sections which is Section A and B. The Section A (demographic profile, screening question, and general question) which consists of 8 questions such as gender, age, education level, occupation. Screening question like experienced in purchasing product from live streaming shopping will be also included in the questionnaire. In Section A, it includes the general question regarding the experience, platform in purchasing product from live streaming shopping as well as frequency and time of watching live streaming shopping.

In Section B, it consists of 3 questions each, asking about the dependent variables, PR as mediator, and IBD as dependent variable for impulse buying behaviour on live streaming shopping. Seven-Point Likert-Scale are adopted in this section. Participant can choose from the scale of 1 to scale 7. For instance, 1 indicates “Strongly Disagree” while 7 indicates “Strongly Agree”.

3.4.2 Pilot Test

Before spreading the actual questionnaires to the targeted respondents, a pilot test was conducted to determine the variable's reliability, determine any weaknesses, or mistake in the questionnaires, and guarantee that the guidelines and all the questions are understandable to the respondents (Hassan, et al, 2006). Prior to the full-scale investigation, a small-scale pilot test with 30 responders was undertaken (Iddagoda, 2017).

Table 3.1: Pilot Test

Constructs	Number of Items	Cronbach's Alpha Coefficient
PP	3	.809
PTL	3	.730
POC	3	.890
CSI	3	.823
CCI	3	.636
VA	3	.839
PR	3	.733
IBD	3	.808

Source: Developed for the Research

According to the result from the table 3.1, all the variables are range within 0.636 to 0.890 for the Cronbach's Alpha coefficient values. Thus, the Cronbach alpha is all larger than the 0.6, it considered acceptable, good, and reliable value (Hussein, 2020).

3.5 Evaluation of Measurement and Structural Model

3.5.1 Scale of Measurement

Table 3.2: Demographic Profile, Screening Question, General Question

Section		Items	Measurement Scales
A	Demographic Questions	Gender	Nominal
		Age (Years Old)	Ordinal
		Education Level	Ordinal
		Occupation	Nominal
	Screening Question	Bought product from live streaming shopping	Nominal
	General Questions	Platform use for live streaming shopping	Nominal
		Frequency of watching live streaming shopping	Ordinal
		Time of watching live streaming shopping	Ordinal

Source*:* Developed for the Research

Table 3.3: Independent Variables, Mediator, Dependent Variable

Section	Variable	Number of Question	Measurement Scale	Sources
B	PP	3	Interval (7-point Likert scale)	(Huang & Suo, 2021)
	PTL	3		
	POC	3		
	CSI	3		
	CCI	3		
	VA	3		

	PR	3		
	IBD	3		

Source*:* Developed for the Research

3.6 Data Processing

3.6.1 Data Checking

After the surveys were collected, this technique was used to identify data whether is suitable or unmatched. In this study, 58 questionnaires do not take into consideration because those respondents do not have any experienced in live streaming shopping.

3.6.2 Data Coding

During the data coding process, the obtained data will be extracted for preliminary codes. The goal of data coding is to summarise the obtained data, eliminate unneeded data, and provide the data significance (Pearl et al., 1972). The minimum code range adopted for this research is "1," while the maximum code range is "7." Table 3.4 and 3.5 below shows the data coding for Section A and B.

Table 3.4: Data Coding (Section A)

Question		**Coding**
Demographic Questions	Gender	1 = “Male” 2 = “Female”
	Age (Years Old)	1 = “18-27” 2 = “28-37” 3 = “38-47” 4 = “>48”

	Education Level	1 = "High school or less" 2 = "Diploma" 3 = "Bachelor's Degree" 4 = "Master's Degree" 5 = "Doctoral's Degree"
	Occupation	1 = "Student" 2 = "Office Worker" 3 = "Self-employed" 4 = "Professor"
Screening Question	Bought product from live streaming shopping	1 = "Yes" 2 = "No"
General Questions	Platform use for live streaming shopping	Taobao (1 = Yes, 2 = No) Lazada (1 = Yes, 2 = No) Shopee (1 = Yes, 2 = No) Tiktok (1 = Yes, 2 = No) Facebook (1 = Yes, 2 = No) Instagram (1 = Yes, 2 = No) GoShop (1 = Yes, 2 = No)
	Frequency of watching live streaming shopping	1 = "At least once each day" 2 = "At least once per week" 3 = "At least once per month" 4 = "At least once per three months" 5 = "At least once per half-year" 6 = "At least once per year"
	Time of watching live streaming shopping	1 = "Less than 30 minutes" 2 = "30 minutes - 1 Hours" 3 = "1 - 3 Hours" 4 = "3 - 6 Hours" 5 = "More than 6 Hours"

Source*:* Developed for the Research

Table 3.5: Data Coding (Section B)

Question	Data Coding
PP	1 = "Strongly Disagree" 2 = "Disagree" 3 = "Slightly Disagree" 4 = "Either" 5 = "Slightly Agree" 6 = "Agree" 7 = "Strongly Agree"
PTL	
POC	
CSI	
CCI	
VA	
PR	
IBD	

Source: Developed for the Research

3.7 Data Analysis Technique

In this section, Statistical Package for Social Science (SPSS) software is adopted for data analysis. SPSS aids research in making an accurate and reliable data by identifying the dependent variable and independent variables.

3.7.1 Descriptive Analysis

Demographic profile is mainly analyze by using descriptive analysis such as the gender, age, occupational, and so on through pie chart, graph, table, and so on. Section A and will be evaluate using bar graph and pie chart which includes the frequency and percentage of the respondents. In addition, central tendency and reliability are also being measured using the descriptive analysis. Standard deviation is the measurement for variability while mean, mode, and median are the measurement of central tendency (Kaliyadan & Kulkarni, 2019).

3.7.2 Inferential Analysis

3.7.2.1 Pearson Correlation Coefficient

In general, the Pearson correlation coefficient is for investigation the positive and negative correlation between dependent and independent variables. When it is a positive linear relationship, the r value is exactly +1 which mean independent variables will positively influence the dependent variable. On the contrary, negative linear relationship indicate the r value is -1. It determines the independent variables will negatively influence the dependent variable. Even so the r value of 0 indicates the neutral relationship that the independent and dependent variable will not impact by each other (Benesty et al., 2009).

3.7.2.2 Multiple Linear Regression

In quantitative variable, when the dependent variable is being researched in connection to independent variables, this is a frequent and very versatile analytic framework to evaluate data. Therefore, multiple regression analysis is adopted for the hypotheses testing. The significance of the relationship between the Stimulus factors and the impulse buying decision can be determined. In this regression, ANOVA, Coefficients and Model Summary is practiced acquiring the value of significance.

3.7.3 Mediation Analysis

Mediation analysis is conducted using the PROCESS macro. Before conducting the mediation analysis, it is necessarily to ensure the total effect between the

independent and dependent variable. However, if there is no statistical significance, mediation analysis is no point. Finally, check with the indirect effect of independent variables and dependent variable via mediator with the point effect. If zero did not take place between the lower and upper interval, the mediating effect was demonstrated (Uedufy, 2022). After that, to determine the presence or type of mediation. When independent variables no direct effect the dependent variable after the mediator has been controlled, it is full mediation. For partial mediation, the relationship between mediator and dependent variable is significant, and there is a direct relationship between independent and dependent variable (Ewalds-Kvist, 2018).

3.8 Summary

In conclusion, before the questionnaire had formed, the sampling design are determined. This study uses primary date as the data collection method to distribute the questionnaire. Furthermore, nominal, and ordinal scale are used in the demographic profile and general question of the respondents. 7-point Likert scale is used in measure of independent variables and dependent variables. A pilot test also being conducted in order to minimize the error before distributing the questionnaire to large-scale of respondents. After the pilot test, questionnaire will be distributed to those individuals who have experience in live streaming shopping through Google Form. Lastly, SPSS system will be used to analyse the data after result has been collected.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

254 questionnaires have been collected via Google Form. However, there are only 58 respondents did not take into consideration due to inexperienced in live streaming shopping. To evaluate the association between Stimulus factors and Response factor, as well as the mediator, the data will be analysed using the SPSS software. The conducted statistical test result analysis will be explored in this chapter.

4.1 Demographic of Respondent

4.1.1 Gender

Table 4.1: Gender

		Frequency	Percent (%)
Valid	Male	79	31.1
	Female	175	68.9
	Total	**254**	**100.0**

Source: Developed for the Research

Figure 4.1: Pie Chart for Gender

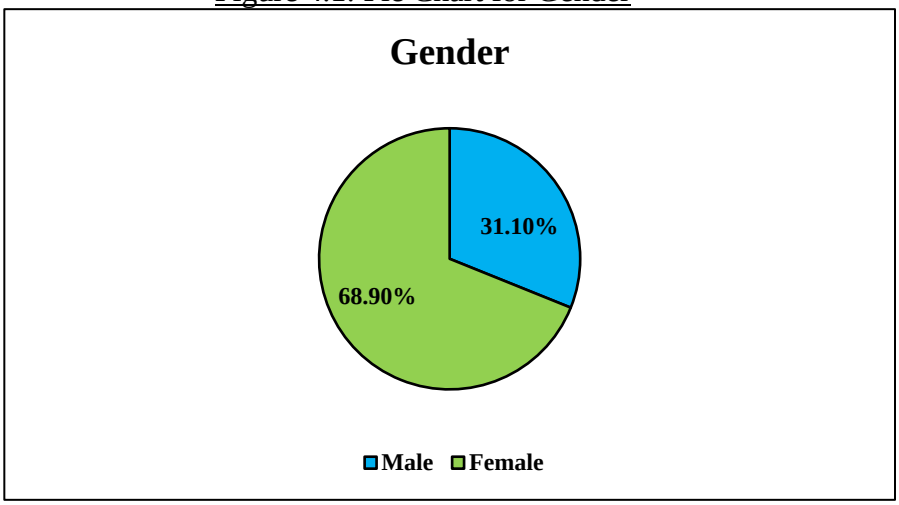


Figure 4.1 above shows the percentage of gender of the respondents. There are a total of 254 responses, with 175 (68.9%) females and 79 (31.10%) males.

4.1.2 Age

Table 4.2: Age

		Frequency	Percent (%)
Valid	18-27	220	86.6
	28-37	21	8.3
	38-47	10	3.9
	>48	3	1.2
	Total	254	100.0

Source: Developed for the Research

Figure 4.2: Pie Chart for Age

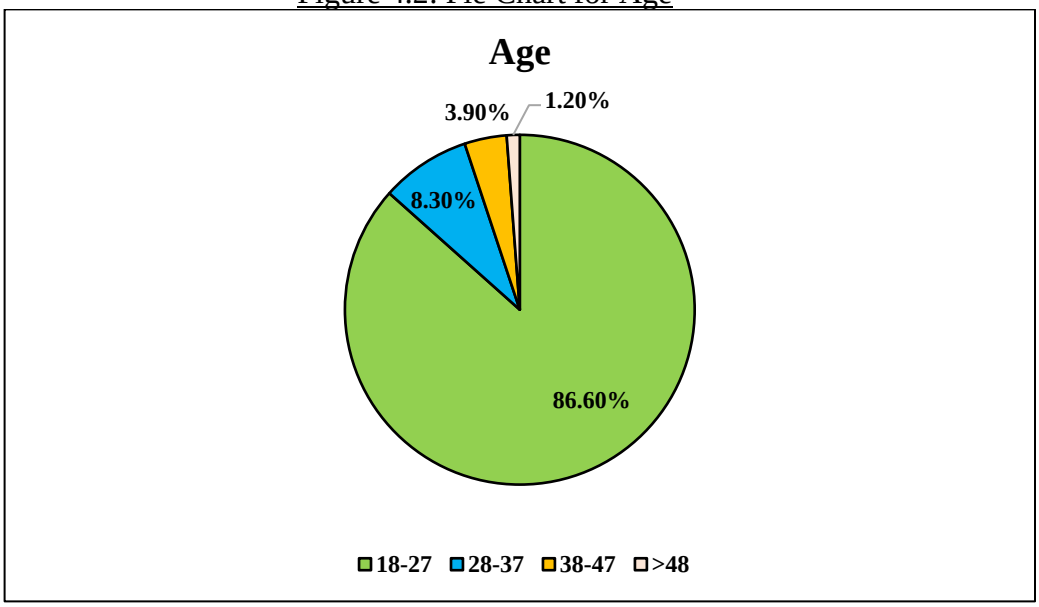


Figure 4.2 indicates the most respondents came from the age of 18 - 24 with a result of 220 respondents (86.60%) followed by the age of 28 - 37 with 21 respondents (8.30%). Ages from 38 - 47 ages had 10 respondents (3.90%) while

the lowest numbers of respondents came from the ages higher than 48 with a result of 1.20%.

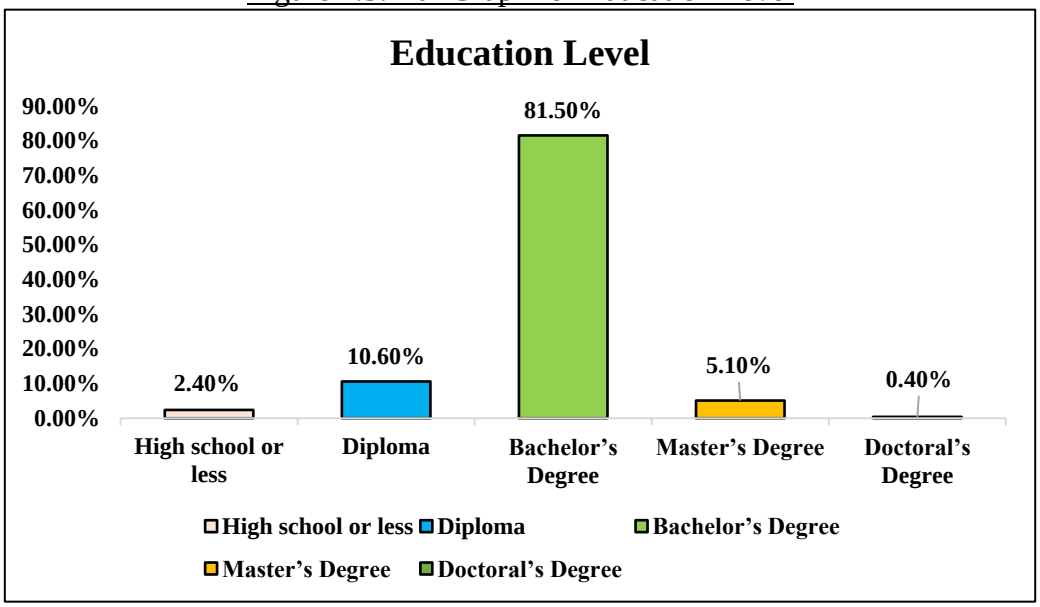
4.1.3 Education Level

Table 4.3: Education Level

		Frequency	Percent (%)
Valid	High school or less	6	2.4
	Diploma	27	10.6
	Bachelor's Degree	207	81.5
	Master's Degree	13	5.1
	Doctoral's Degree	1	0.4
	Total	254	100.0

Source: Developed for the Research

Figure 4.3: Bar Graph for Education Level



The percentage of respondents' education level is shown in Figure 4.3. It revealed that most respondents have a bachelor's degree, accounting for 81.5 % (207 respondents), with diplomas accounting for 10.60 % (27 respondents), master's degrees accounting for 5.10 % (13 respondents), high school or less

accounting for 2.40 % (6 respondents), and doctoral degrees accounting for 0.40 % (1 respondent).

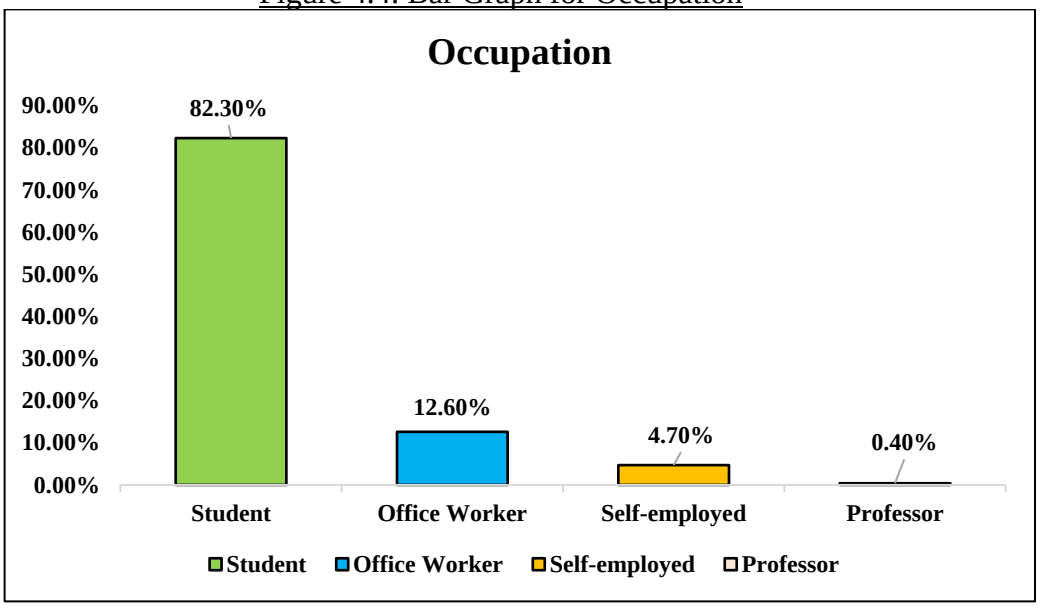
4.1.4 Occupation

Table 4.4: Occupation

		Frequency	Percent (%)
Valid	Student	209	82.3
	Office Worker	32	12.6
	Self-employed	12	4.7
	Professor	1	0.4
	Total	254	100.0

Source: Developed for the Research

Figure 4.4: Bar Graph for Occupation



The figure 4.4 above show the respondent's occupation. It indicates that the majority of the respondents are student who occupied 82.30% (209 respondents), followed by office worker with 12.60% (32 respondents), self-

employed with 4.70% (12 respondents), and professor with 0.40% (1 respondent).

4.2 Screening Question

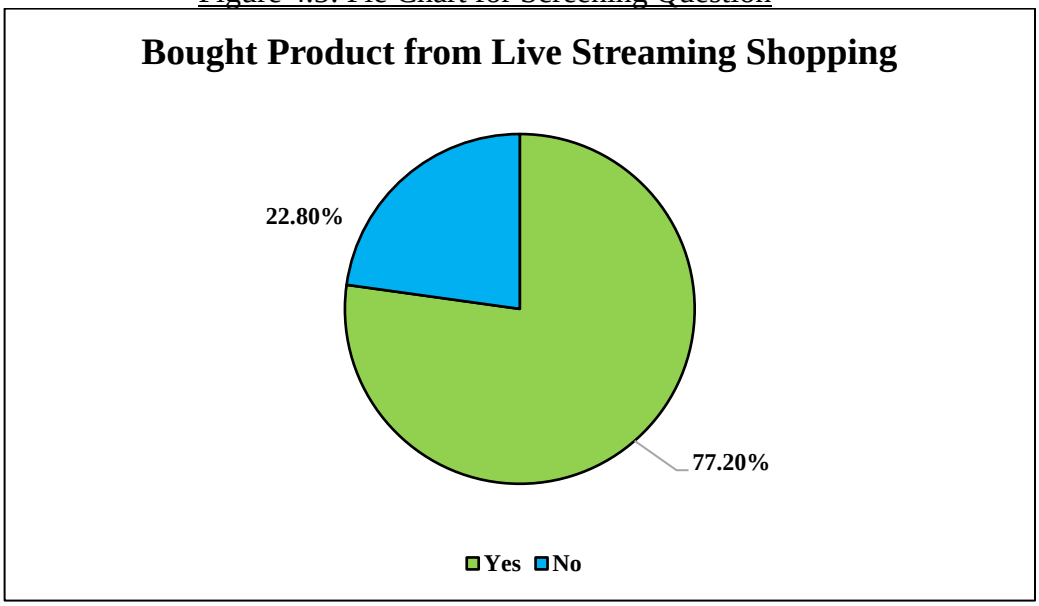
4.2.1 Bought Product from Live Streaming Shopping

Table 4.5: Bought Product from Live Streaming Shopping

		Frequency	Percent (%)
Valid	Yes	196	77.2
	No	58	22.8
	Total	254	100

Source*:* Developed for the Research

Figure 4.5: Pie Chart for Screening Question



Based on the figure 4.5 above, it showed the 77.20% of respondents (196 respondents) had experienced in purchasing product from live streaming shopping while another 22.80% respondents (58 respondents) did not have any experienced.

4.3 General Question

4.3.1 Platform for Live Streaming Shopping

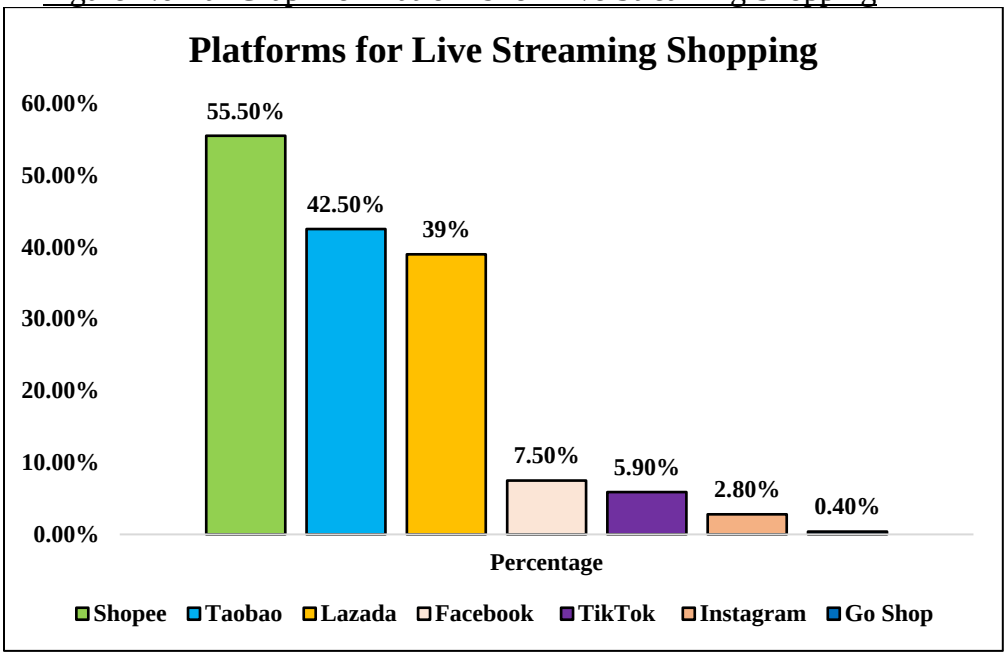
Table 4.6: Platform for Live Streaming Shopping

Platform			Frequency	Percent (%)
Shopee	Valid	Yes	141	55.5
		No	55	21.7
		Total	196	77.2
	Missing	System	58	22.8
		Total	254	100.0
Taobao	Valid	Yes	108	42.5
		No	88	34.6
		Total	196	77.2
	Missing	System	58	22.8
		Total	254	100.0
Lazada	Valid	Yes	99	39
		No	97	38.2
		Total	196	77.2
	Missing	System	58	22.8
		Total	254	100.0
Facebook	Valid	Yes	19	7.5
		No	177	69.7
		Total	196	77.2
	Missing	System	58	22.8
		Total	254	100.0
TikTok	Valid	Yes	15	5.9
		No	181	71.3
		Total	196	77.2
	Missing	System	58	22.8

		Total	254	100.0
Instagram	Valid	Yes	7	2.8
		No	189	74.4
		Total	196	77.2
	Missing	System	58	22.8
		Total	254	100.0
Go Shop	Valid	Yes	1	0.4
		No	195	76.8
		Total	196	77.2
	Missing	System	58	22.8
		Total	254	100.0

Source*:* Developed for the Research

Figure 4.6 Bar Graph for Platforms for Live Streaming Shopping



Based on the figure 4.6, it showed the platform used for live streaming shopping by the respondents. Respondents can select multiple platforms that they used for live streaming shopping. It displays that Shopee is the most popular platform that used by the respondents which occupied 55.5% (141 respondents),

followed by Taobao with 42.5% (108 respondents), Lazada with 39% (99 respondents), Facebook with 7.5% (19 respondents), TikTok with 5.9% (15 respondents), Instagram with 2.8% (7 respondents), and Go Shop with 0.4% (1 respondent).

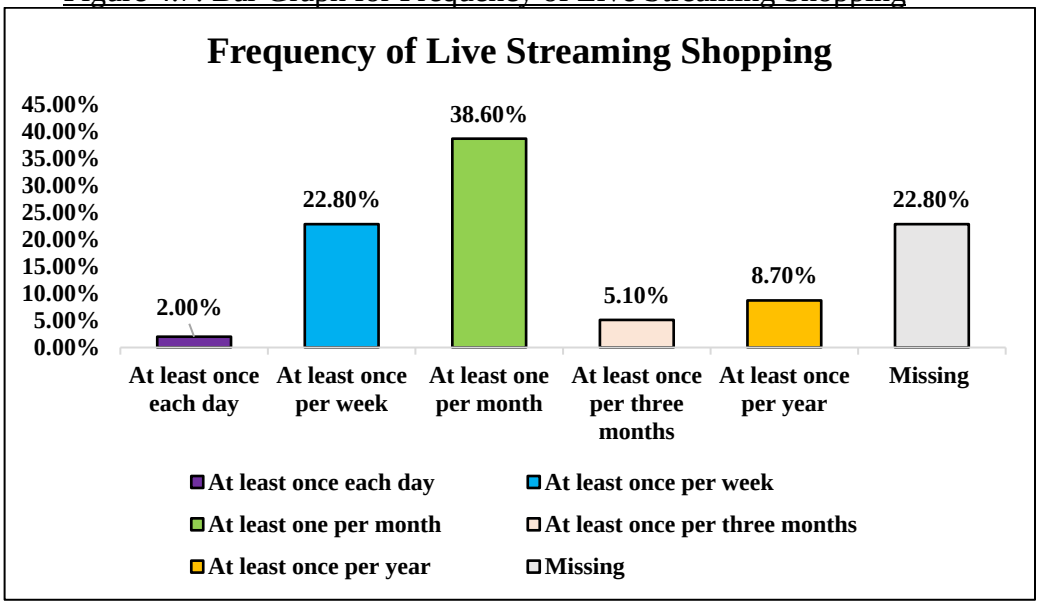
4.3.2 Frequency of Live Streaming Shopping

Table 4.7: Frequency of Live Streaming Shopping

		Frequency	Percent (%)
Valid	At least once each day	5	2.0
	At least once per week	58	22.8
	At least one per month	98	38.6
	At least once per three months	13	5.1
	At least once per year	22	8.7
	Total	196	77.2
Missing	System	58	22.8
	Total	254	100.0

Source: Developed for the Research

Figure 4.7: Bar Graph for Frequency of Live Streaming Shopping



Based on the figure 4.7, it shows the percentage of frequency of live streaming shopping of the respondents. 22.80% (58) of respondents was discarded due to did not have any experienced in live streaming shopping. Majority of our respondents' frequency of live streaming shopping is at least one per month which occupied 38.60% (98). 22.80% (58) of respondents live streaming shopping at least once per week, 8.70% (22) of respondents at least once per year, 5.10% (13) of respondents at least once per three months, and 2.00% (5) of respondents at least once each day.

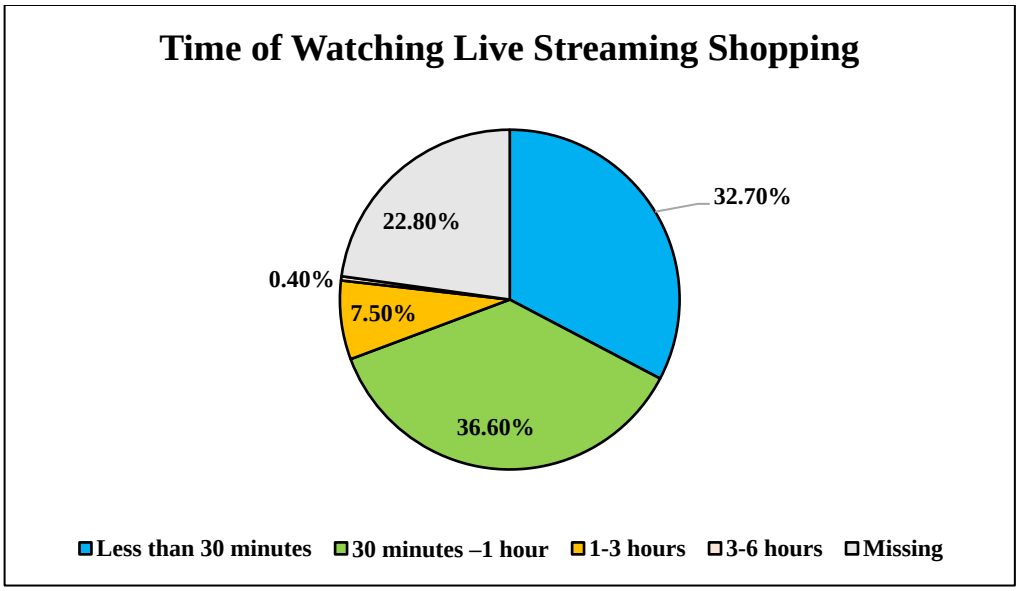
4.3.3 Time of Watching Live Streaming Shopping

Table 4.8: Time of Watching Live Streaming Shopping

		Frequency	Percent (%)
Valid	Less than 30 minutes	83	32.7
	30 minutes –1 hour	93	36.6
	1-3 hours	19	7.5
	3-6 hours	1	0.4
	Total	196	77.2
Missing	System	58	22.8
	Total	254	100.0

Source*:* Developed for the Research

Figure 4.8: Time of Watching Live Streaming Shopping



Based on the figure 4.8 above, majority of the respondents watch live streaming shopping for 30 minutes to 1 hour which occupied 36.60% (93 respondents). Another 32.70% (83) of respondents watch live streaming shopping for less than 30 minutes, followed by 1 to 3 hours with 7.50% (19) and 3-6 hours with 0.40% (1).

4.4 Descriptive Statistic of Variable

4.4.1 Mean and Standard Deviation for Price Promotion (PP)

Table 4.9: Mean and Standard Deviation for Price Promotion

Number of Question	Statement	Mean	Standard Deviation	Rank
PP1	"I am easily attracted by price promotions."	5.82	1.001	1
PP2	"When it comes to price promotions, I cannot help buying."	5.23	1.391	3
PP3	"The price promotion gave me a strong impulse to buy."	5.64	1.255	2

Source: Developed for the Research

The mean and standard deviation values for the PP variable in the questionnaire are shown in Table 4.9. The question with the greatest mean is PP1, which has a value of 5.82, and the lowest mean is PP2, which has a value of 5.23. Thus, it revealed that most of the respondents had expressed slightly agree and agree with the items in the questionnaire.

4.4.2 Mean and Standard Deviation for Promotion Time Limit (PTL)

Table 4.10: Mean and Standard Deviation for Promotion Time Limit

Number of Question	Statement	Mean	Standard Deviation	Rank
PTL1	"I feel that streamers usually give a short promotional period."	5.66	1.142	2
PTL2	"I feel like I have less time to decide whether to buy a sale or not."	5.54	1.360	3
PTL3	"I have a feeling that the sales deadline for the seckill product will run out very soon."	5.69	1.219	1

Source: Developed for the Research

The mean and standard deviation values for the PTL variable in the questionnaire are shown in Table 4.10. The question with the greatest mean, PTL3, has a value of 5.69, while the question with the lowest mean, PTL2, has a value of 5.54. Thus, it showed most of the respondents had expressed slightly agree and agree with the items in the questionnaire.

4.4.3 Mean and Standard Deviation for Perceived Opportunity Cost (POC)

Table 4.11: Mean and Standard Deviation for Perceived Opportunity Cost

Number of Question	Statement	Mean	Standard Deviation	Rank
POC1	"I feel like the number of items on seckill is limited, and if I do not buy it, someone else will snap it up."	5.51	1.318	3
POC2	"I feel like seckill products are so cheap that if I do not buy them, someone else will snap them up."	5.53	1.271	2
POC3	"I feel like the product has a very short promotional time, and if I do not buy it, I'll miss it."	5.60	1.251	1

Source: Developed for the Research

Based on the table 4.11 above, the question which has the highest mean is POC3 with the value of 5.60 and the question which has the lowest mean is POC1 with the value of 5.51. Hence, it shows that most of the respondents had expressed slightly agree and agree with the items in the questionnaire.

4.4.4 Mean and Standard Deviation for Consumer-Streamer Interaction (CS)

Table 4.12: Mean and Standard Deviation for Consumer-Streamer Interaction

Number of Question	Statement	Mean	Standard Deviation	Rank
CSI1	Streamer is very happy to communicate with me.	5.43	1.146	2
CSI2	Streamers give corresponding feedback to my inquiries.	5.45	1.111	1
CSI3	I get a lot of good advice from streamers.	5.32	1.196	3

Source: Developed for the Research

The mean and standard deviation values for the CSI variable in the questionnaire are shown in Table 4.12. The question with the highest mean, CSI2, has a value of 5.45, while the question with the lowest mean, CSI3, has a value of 5.32. Therefore, it shows that most of the respondents had expressed slightly agree and agree with the items in the questionnaire.

4.4.5 Mean and Standard Deviation for Consumer-Consumer Interaction (CCI)

Table 4.13: Mean and Standard Deviation for Consumer-Consumer Interaction

Number of Question	Statement	Mean	Standard Deviation	Rank
CCI1	"I will share my shopping experience and feelings with other consumers."	5.35	1.225	2
CCI2	"I can communicate with other consumers smoothly."	5.28	1.311	3
CCI3	"What other consumers said about the product helped me	5.60	1.026	1

	make my purchase decision."			

Source: Developed for the Research

Table 4.13 shows the mean and standard deviation values for the CCI variable in the questionnaire. The question with the highest mean, CCI3, has a value of 5.60, while the question with the lowest mean, CCI2, has a value of 5.28. As a result, it appears that the majority of respondents agreed or strongly agreed with the items in the questionnaire.

4.4.6 Mean and Standard Deviation for Visual Appeal (VA)

Table 4.14: Mean and Standard Deviation for Visual Appeal

Number of Question	**Statement**	**Mean**	**Standard Deviation**	**Rank**
VA1	"Streamers make a clear presentation of the products for sale."	5.69	1.071	2
VA2	"The way the streamers present the products is very attractive."	5.72	1.089	1
VA3	"The overall visual effect of the live streaming room is very good."	5.64	1.108	3

Source: Developed for the Research

The mean and standard deviation values for the VA variable in the questionnaire are shown in Table 4.14. The question with the highest mean, VA2, has a value of 5.72, while the question with the lowest mean, VA3, has a

value of 5.64. As a result, it appears that the majority of respondents agreed or strongly agreed with the items in the questionnaire.

4.4.7 Mean and Standard Deviation for Perceived Risk (PR)

Table 4.15: Mean and Standard Deviation for Perceived Risk

Number of Question	Statement	Mean	Standard Deviation	Rank
PR1	"I am afraid after-sales service is not good."	5.59	1.311	1
PR2	"I always feel uneasy about buying goods in the live streaming room."	5.31	1.470	3
PR3	"I worry that the prices on offer in the studio are higher than in other similar markets."	5.37	1.327	2

Source*:* Developed for the Research

The mean and standard deviation values for the PR variable in the questionnaire are shown in Table 4.15. The question with the highest mean, PR1, has a value of 5.59, while the one with the lowest mean, PR2, has a value of 5.31. As a result, the majority of respondents agreed or strongly agreed with the items in the questionnaire.

4.4.8 Mean and Standard Deviation for Impulse Buying Decision (IBD)

Table 4.16: Mean and Standard Deviation for Impulse Buying Decision

Number of Question	Statement	Mean	Standard Deviation	Rank
IBD1	"I did not plan it at all until I went into the live streaming room and decided to buy it."	5.38	1.499	1
IBD2	"I bought the product without thinking it through at all."	4.83	1.903	3
IBD3	"I was completely influenced by the mood of the moment when I made the purchase."	5.27	1.671	2

Source: Developed for the Research

The mean and standard deviation values for the IBD variable in the questionnaire are shown in Table 4.16. The question with the greatest mean, IBD1, has a value of 5.38, while the question with the lowest mean, IBD2, has a value of 4.83. Thus, it shows that most of the respondents had expressed slightly agree and agree with IBD1 and IBD2 while IBD3 are expressed as either or slightly agree.

4.5 Multivariate Assumption Test

4 5.1 Reliability Test

Table 4.17: Cronbach's Alpha Coefficient Values

Constructs	Number of Items	Cronbach's Alpha Coefficient
PP	3	0.820
PTL	3	0.790

POC	3	0.862
CSI	3	0.858
CCI	3	0.727
VA	3	0.870
PR	3	0.788
IBD	3	0.885

Source*:* Developed for the Research

The purpose of this reliability test is to determine the consistency and stability of the study variables (Achour, 2017). Total of 254 sets of questionnaires had been collected but 58 sets are being discarded due to inexperienced in live streaming shopping. Hence, there were 196 sets of questionnaires included in this reliability test and its results will be performed in the table below.

The table 4.17 above display the result of reliability for this study. The result demonstrated all the Cronbach's Alpha Coefficient lied between 0.727 to 0.885. The result implied that promotion time limit, consumer-consumer interaction, and perceived risk which fall between 0.70 to 0.80 are respectable. For price promotion, consumer-streamer interaction, visual appeal, perceived opportunity cost, and impulse buying all fall between 0.80 to 0.90 which indicate a very good level of reliability (Achour, 2017).

4.6 Pearson Correlations

Table 4.18: Summary of Result for Pearson's Correlation Coefficient

Hypothesis	**Path**	**P-value**	**Pearson Correlation**	**Result**
H1	PP→IBD	0.000	0.547**	Positive
H2	PTL→IBD	0.000	0.513**	Positive

H3	POC→IBD	0.000	0.587**	Positive
H4	CSI→IBD	0.000	0.455**	Positive
H5	CCI→IBD	0.000	0.430**	Positive
H6	VA→IBD	0.000	0.442**	Positive
H7	PR→IBD	0.000	0.623**	Positive
H8	PP→PR→IBD	0.000	0.345**	Positive
H9	PTL→PR→IBD	0.000	0.601**	Positive
H10	POC→PR→IBD	0.000	0.562**	Positive
H11	CSI→PR→IBD	0.000	0.447**	Positive
H12	CCI→PR→IBD	0.000	0.409**	Positive
H13	VA→PR→IBD	0.000	0.400**	Positive

Source*:* Developed for the Research

*p-value (significant at the level 0.01 (2-tailed)

Because the p-value is less than 0.05, all of the relationships between independent factors, mediators, and dependent variables H1 to H13 are significant, as according to table 4.18. H1, H2, and H3 have correlation coefficients of 0.50 to 0.70, indicating moderate positive correlation, but H4, H5, and H6 have correlation coefficients of 0.30 to 0.50, indicating medium positive correlation. Furthermore, the connection between perceived risk and impulse purchase choice (H7) is moderately positive, ranging from 0.50 to 0.70. Additionally, H8, H11, H12, and H13 all indicate low positive correlation since it lies between 0.30 to 0.50. H9 and H10 demonstrated moderate positive correlation.

4.7 Multiple Regression

4.7.1 Influencing Factors on Impulse Buying Decision

Table 4.19: Model Summary of Total Effect

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error the Estimate**
1	0.680	0.463	0.446	1.14121

a. Predictors: (Constant), PP, PTL, POC, CSI, CCI, VA

b. Dependent: PR

Table 4.20: Table of ANOVA

ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	211.957	6	35.326	27.125	0.000
	Residual	246.145	189	1.302		
	Total	458.102	195			

Table 4.19 shows the R^2 is 0.463, which suggests that six independent variables can explain roughly 46.3 percent of the dependent variable (consumers' impulse buying behaviour in live streaming commerce).

Table 4.21: Coefficient

Coefficients						
Factors	**B (unstandardized)**	**SE**	**Standardized β**	**P-value**	**T-value**	**VIF**
(Constant)	-1.853	0.6077		0.003	-3.050	
PP	0.464	0.0913	0.3183	0.000	5.0820	1.380
PTL	0.194	0.110	0.1321	0.049	2.7687	1.963
POC	0.311	0.112	0.2303	0.006	2.7851	2.406
CSI	0.166	0.122	0.1104	0.176	1.3594	2.318
CCI	0.025	0.126	0.0155	0.845	0.1962	2.194
VA	0.102	0.102	0.0646	0.409	0.8273	2.145

*p<0.05 **p<0.01 ***p<0.001 (Significance Rate)

Based on the Table 4.21, the equation is formed:

Impulse Buying Decision= -1.853 + 0.464 (PP) + 0.194 (PTL) + 0.311 (POC) + 0.166 (CSI) + 0.025 (CCI) + 0.102 (VA)

From the Table 4.21 above has shown that 3 out of 6 independent variables which are price promotion, perceived opportunity cost, and promotion time limit have a significant relationship on consumers' impulse buying decision towards live streaming shopping. This is because all these variables achieve a p-value that lower than 0.05. Meanwhile, VA, CSI, and CCI have an insignificant relationship with consumers' impulse buying decision due to the p-value of both variables are higher than 0.05.

Moreover, unstandardized beta coefficient for PP, PTL, POC, CSI, CCI, VA is 0.464, 0.194, 0.311, 0.166, 0.025, and 0.102, respectively. For instance, each unit increase in price promotion will raise the impulse buying choice in live streaming by 0.464 units, and same goes to others independent variables. VIF values are all less than 10, indicating that there is no multicollinearity problem among independent variables

Price promotion has the greatest standardised beta coefficient of 0.3183, indicating that it is the most important and influential variable on customers' impulse purchase in live streaming commerce.

4.7.2 Influencing Factors on Perceived Risk

Table 4.22: Model Summary of Multiple Linear Regression

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error the Estimate**

1	0.651	0.424	0.406	0.88578

a. Predictors: (Constant), PP, PTL, POC, CSI, CCI, VA

b. Dependent: PR

Table 4.22 indicated that the R^2 is 0.4243. This illustrate that there are about 42.43% of the mediator (perceived risk in live streaming shopping) can be explained by six independent variables.

Table 4.23: Table of ANOVA

ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	109.289	6	18.215	23.216	0.000
	Residual	148.289	189	0.785		
	Total	257.578	195			

Table 4.24: Coefficient

Coefficient						
Factors	**B (unstandardized)**	**SE**	**Standardized β**	**P-value**	**T-value**	**VIF**
(Constant)	0.9737	0.4717		0.0403	2.0644	
PP	0.0330	0.0708	0.0302	0.6422	0.4653	1.3800
PTL	0.4381	0.0852	0.3978	0.0000	5.1450	1.9629
POC	0.2489	0.0868	0.2455	0.0046	2.8681	2.4061
CSI	0.1680	0.0951	0.1485	0.0787	1.7677	2.3184
CCI	-0.0267	0.0979	-0.223	0.7853	-0.2728	2.1941
VA	-0.0607	0.0957	-0.512	0.5270	-0.6337	2.1447

*p<0.05 **p<0.01 ***p<0.001 (Significance Rate)

Based on the Table 4.24, the equation is formed:

Perceived Risk= 0.9737 + 0.0330 (PP) + 0.4381 (PTL) + 0.2489 (POC) + 0.1680 (CSI) - 0.0267 (CCI) - -0.0607 (VA)

From the Table 4.24 above has shown that 2 out of 6 independent variables which are promotion time limit and perceived opportunity cost have a significant relationship on independent variables toward perceived risk. This is because all these variables achieve a p-value that lower than 0.05. Meanwhile, price promotion, visual appeal, consumer-streamer interaction, and consumer-consumer interaction have an insignificant relationship with consumers' impulse buying decision due to the p-value are higher than 0.05.

Moreover, unstandardized beta coefficient for PP, PTL, POC, CSI, CCI, VA is 0.0330, 0.4381, 0.2489, 0.1680, -0.0267, and -0.0607 respectively. For illustration, each unit increase in price promotion will raise the impulse buying choice in live streaming by 0.0330 units, same goes to others independent variables. VIF values are all less than 10, indicating that there is no multicollinearity problem among independent variables

According to the standardised beta coefficient, the promotion time limit is the most relevant and significant variable on perceived risk in live streaming purchasing, with a standardised beta coefficient of 0.3978. However, the standardised beta coefficients for consumer-consumer interaction and visual appeal are -0.223 and -0.512, respectively.

4.7.3 Perceived Risk Towards Impulse Buying Decision

Table 4.25: Model Summary of Multiple Linear Regression

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error the Estimate**

1	0.623	0.389	0.385	1.20161

a. Predictors: (Constant), PR

b. Dependent: IBD

According to Table 4.25, the R2 is 0.389, which suggests that about 38.9% of the dependent variable (impulse purchase choice) is significant and can be attributable do mediator (perceived risk).

Table 4.26: Table of ANOVA

ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	177.991	1	177.991	123.273	0.000
	Residual	280.112	194	1.444		
	Total	458.102	195			

Table 4.27: Coefficient

Coefficient					
Factors	**B (unstandardized)**	**SE**	**Standardized β**	**P-value**	**T-value**
(Constant)	0.653	0.415		0117	1.574
PR	0.831	0.075	0.623	0.000	11.103

*p<0.05 **p<0.01 ***p<0.001 (Significance Rate)

4.8 Mediation Analysis

4.8.1 Perceived Risk Mediation Analysis

Table 4.28: Mediation Analysis

		Bootstrap 95% Confidence Interval	

Paths	Point Estimation	Lower	Upper	Whether Mediating Effect or Not?
PP→PR→IBD	0.0170	0.0577	0.1141	YES
PTL→PR→IBD	0.2264	0.1058	0.3734	YES
POC→PR→IBD	0.1286	0.0312	0.2582	YES
CSI→PR→IBD	0.0868	-0.0224	0.1915	**NO**
CCI→PR→IBD	-0.0138	-0.1226	0.1610	**NO**
VA→PR→IBD	-0.0314	-0.1585	0.0732	**NO**

Testing the mediating effect through regression analysis includes three steps: 1) testing independent variables and dependent variables, whether the regression coefficients of variables are significant: 2) Test whether the regression coefficients of independent variables and mediating variables are significant; 3) The independent variable and the mediating variable jointly conduct regression analysis on the dependent variable and compare it with the regression coefficient in 1). If the regression coefficient of the independent variable to the dependent variable is not significant after the addition of the mediation variable, there will be no mediation variable. If the regression coefficient of independent variable towards dependent variable is significant, but the value of regression coefficient decreases, then mediators play a part of the mediating role.

According to the table 4.28, the result revealed that perceived risk has no mediation effect between VA, CSI, and CCI toward impulse buying decision. This is because there is no direct effect between CSI, CCI, and VA between impulse buying decision in the absent of perceived risk. It also has the possibility occur of zero between the upper and lower limits of the bootstrap 95% confidence interval. Hence, there is no mediation effect.

Nonetheless, perceived risk has mediation effect between price promotion, promotion time limit, toward impulse buying decision. Since the initial relation

between independent and dependent variables is significant, direct effect between dependent and independent variables in the present of mediator are significant, it considered partial mediation (Ewalds-Kvist, 2018).

4.9 Hypotheses Testing

The results of hypotheses testing for H1 through H13 are shown in table 4.29. According to result, H1 to H3 show significant result where PP (β=0.3183, $p<0.001$); PTL (β=0.1321, $p<0.05$); and POC (β=0.2303, $p<0.01$). However, H4 to H6 are rejected since CSI (β=0.110, $p>0.05$), CCI (β=0.015, $p>0.05$), and VA (β=0.065, $p>0.05$). Meanwhile, H7 which is perceived risk toward impulse buying decision is accepted since (β=0.623, $p>0.001$). Additionally, H8 to H10 have partial mediation while H11 to H13 have no mediation effect.

Table 4.29: Hypotheses Testing

Hypotheses	Path	Outcome	Determination
H1	PP→IBD	Multiple Linear Regression Standardized β: 0.3183 Significant value: 0.000, p<0.001	Accepted
H2	PTL→IBD	Multiple Linear Regression Standardized β: 0.1321 Significant value: 0.049, p<0.05	Accepted
H3	POC→IBD	Multiple Linear Regression Standardized β: 0.2303 Significant value: 0.006, p<0.01	Accepted
H4	CSI→IBD	Multiple Linear Regression Standardized β: 0.1104	Rejected

		Significant value: 0.176, p>0.05	
H5	CCI→IBD	Multiple Linear Regression Standardized β: 0.0155 Significant value: 0.845, p>0.05	Rejected
H6	VA→IBD	Multiple Linear Regression Standardized β: 0.0646 Significant value: 0.409, p>0.05	Rejected
H7	PR→IBD	Multiple Linear Regression Standardized β: 0.623 Significant value: 0.000, p<0.001	Accepted
H8	PP→PR→ IBD	Point Estimation: 0.0170 Lower: 0.0577 Upper: 0.1141	Partial Mediation
H9	PTL→PR →IBD	Point Estimation: 0.2264 Lower: 0.1058 Upper: 0.3734	Partial Mediation
H10	POC→PR →IBD	Point Estimation: 0.1286 Lower: 0.0312 Upper: 0.2582	Partial Mediation
H11	CSI→PR→ IBD	Point Estimation: 0.0868 Lower: -0.0224 Upper: 0.1915	No Mediation Effect
H12	CCI→PR→ IBD	Point Estimation: -0.0138 Lower: -0.1226 Upper: 0.1610	No Mediation Effect

H13	VA→PR→ IBD	Point Estimation: -0.0314 Lower: -0.1585 Upper: 0.0732	No Mediation Effect

Source: Developed from the research

CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATIONS

5.0 Introduction

This chapter examines the statistical findings and analyses from the preceding chapters. The study's implications, limitations, and recommendations will also be addressed.

5.1 Summary of Statistical Analysis

5.1.1 Descriptive Analysis

5.1.1.1 Demographic Profile

Total of 254 respondents had been participate in the questionnaires. Based on the finding from Chapter 4, the result demonstrated that majority of the respondents are female (68.9%) (175) as compared to male. 86.6% (220) of respondents came from age group of 18-27. Besides, 81.5% (207) of respondents' education level is bachelor's degree and 82.3% (209) are student.

5.1.1.2 Scale Measurement

For reliability test, the result indicates that all variables are above 0.6. The result shows that PTL, CCI, and PR which fall between 0.70 to 0.80 are respectable. For PP, POC, CSI, VA, and IBD all fall between 0.80 to 0.90 which indicate a very good level of reliability.

For Pearson's Correlation Coefficient, the result shows that is significant because p-value is less than 0.05. The correlation coefficient of H1 (PP→IBD), H2 (PTL→IBD), and H3 (POC→IBD), lies between 0.50 to 0.70 which indicate moderate positive correlation while H4 (CSI→IBD), H5 (CCI→IBD), and H6 (VA→IBD) lies between 0.30 to 0.50 which indicate low positive correlation.

Moreover, the relationship between perceived risk and impulse buying decision (H7) lies between 0.50 to 0.70 which indicates moderate positive correlation. Additionally, H8 (PP→PR→IBD), H11 (CSI→PR→IBD), H12 (CCI→PR→IBD), and H13 (VA→PR→IBD) all indicate low positive correlation since it lies between 0.30 to 0.50. H9 (PTL→PR→IBD) and H10 (POC→PR→IBD) demonstrated moderate positive correlation.

5.2 Discussion of Major Findings

Table 5.1: Summary of the results of Hypotheses Testing

Hypotheses	Result
H1: There is a positive relationship between PP and IBD.	Accepted
H2: There is a positive relationship between PTL and IBD.	Accepted
H3: There is a positive relationship between POC and IBD.	Accepted
H4: There is a positive relationship between CSI and IBD.	Rejected
H5: There is a positive relationship between CCI and IBD.	Rejected
H6: There is a positive relationship between VA and IBD.	Rejected
H7: There is a negative relationship between PR and IBD.	Accepted

H8: PR mediates the relationship between PP and IBD.	Partial Mediation
H9: PR mediates the relationship between PTL and IBD.	Partial Mediation
H10: PR mediates the relationship between POC and IBD.	Partial Mediation
H11: PR mediates the relationship between CSI and IBD.	Rejected
H12: PR mediates the relationship between CCI and IBD.	Rejected
H13: PR mediates the relationship between VA and IBD.	Rejected

Source: Developed from the research

5.2.1 Relationship between Stimulus factors and Response factors

According to the result, it shows that H1, H2, and H3 was acceptable. This mean that PP, PTL, and POC are positively significant toward impulse buying decision. Based on the result above, price promotion is the most significant effect on impulse buying decision. This result was strengthened by the previous result by Huang & Suo (2021). This may be due to the fact that customers are more sensitive to price decreases, and lowered commodity prices may cause consumers to buy more. Moreover, promotion time limit and perceived opportunity cost were significantly impact on the impulse buying decision. This is aligned with the study by Zhang et al (2022). The stronger the perceived opportunity cost to shoppers, hence more time pressure is created, leading to a sense of anxiety and regret for not purchasing. Shoppers will make judgements based on feelings to ease this emotion, making it buy impulsively.

Additionally, H4, H5, and H6 was rejected based on the result above. This suggests that interactions between CSI, as well as CCI and VA, had insignificant impact on spontaneous purchases. Next, CSI is negatively impact

on impulse buying decision. This is supported by the study of Lee & Chen (2021). This might because of the streamer not persuasive & professional enough on the product knowledge, experience, and other skills of in the process of displaying products, consumer cannot perceive products more realistically and in return make consumer less desire to buy. According to Lin & Chen (2012), CCI may be negative impact on impulse buying decision because shoppers with strong emotional intelligence were less susceptible to the stress caused by psychosocial stress, resulting in lower impulsive buying. Next, VA has also insignificant impact on impulse buying decision. This could be due to an overabundance of visualisation design or, conversely, because consumers dislike it, and it does not stimulate their interest in purchasing (Amanah & Harahap, 2020).

5.2.2 Relationship between Organism factors (Perceived Risk) toward Response (Impulse buying decision).

Based on the result, perceived risk has significantly impact on impulse buying decision. The reason for this could be that it is difficult for shoppers to comprehend all the product details during the limited offer period. Given the uncertainty of information and a lack of trust, shoppers will be encouraged to make a quick purchase decision in a short amount of time. This will lead to a higher sense of purchase risk (Huang & Suo, 2021).

5.2.3 Organism factors (Perceived risk) has mediating effect between Stimulus factors and Response (Impulse buying decision).

The finding indicate that perceived risk has mediation effect between PP, PTL, POC toward impulse buying decision. This can be supported by the study of Huang & Suo (2021). When a product's price is favourable, shoppers' perceived

value and benefits rise while their perceived risk reduces, hence boosting their desire to buy. Moreover, shoppers will perceive a higher opportunity cost if they delay or withdraw their purchase during the limited promotion period. Shoppers will make a buying decision to prevent missing out on an opportunity.

Nevertheless, the result demonstrated that perceived risk has no mediation effect between the CSI, CCI, VA toward impulse buying decision. For consumer-streamer interaction and consumer-consumer interaction, one of the possible reasons might be the shoppers will obtain product information and may build positive sentiments, like trust in some of the brand or seller during the live streaming shopping. Next, consumers will only share the products to other consumers when they used and believe in products and seller (Xu et al., 2020). Not only that, but the result also show that perceived risk has no mediation effect between visual appeal and impulse buying decision. Lee & Chen (2021) believed that impulsive purchases are made without regard for financial or other considerations in live streaming commerce. Through the display and explanation of products of the live streamer in a short amount of time, shoppers make it easy to buy impulsively.

5.3 Implication of the Study

5.3.1 Theoretical Implication

This research had examined the factors that influenced impulse buying decision in live streaming shopping from the theoretical perspective by implementing Stimulus-Organism -Response) model. Currently, most of the research study about the factors that influencing impulse buying decision in the context of China. This is because live streaming commerce in Malaysia is still relatively new and there is insufficient study that are relevant. Hence, this research will examine the influencing factors and deeper understanding on perceived

opportunity cost, promotion time limit, price promotion, visual appeal, consumer-streamer interaction, and consumer-consumer interaction toward impulse buying decision in live streaming shopping in the context of Malaysia.

5.3.2 Practical Implication

There are several practical implications and benefit strategy for sellers, merchants, and marketers for live streaming commerce. Firstly, PP is the most significant factors that will affect the impulse buying decision. In live streaming commerce, marketers must establish suitable pricing promotion techniques and strategies. Retailers frequently use promotion as a marketing tool to urge customers to make an immediate purchase. Sellers can effectively execute low-cost, limited-time seckill and limited-buying promos (Huang & Suo, 2021). Nevertheless, sellers must understand the intensity of price promotion during the promotion process. This is because when shoppers have become used to purchasing things at a cheaper price, they will find it hard to comprehend the original price when the product's original price is restored. Hence, shoppers will not repurchase the product and influenced the merchant profits.

Moreover, PTL and POC also significantly effect on impulse buying decision. The length of a campaign will have a direct impact on consumers' purchasing decisions. Setting time limits is one of the most difficult aspects of promotion. Some shoppers will believe that waiting is a waste of time if it takes too long. People would feel urgency if the buying period were too limited. Shoppers' perceived benefits are also greater than the perceived risks because of price promotion. When there is a limited amount of time, buyers may experience a loss of opportunity if they abandon or postpone their purchase. As a result, developing an acceptable price promotion plan may help consumers make spontaneous purchases. Therefore, the estimated sales volume should be determined followed by the expected response. Second, to prevent customer

loss, a specified start time should be established, and the shoppers should be provided timely notice of the time of purchase (Zhang et al., 2022).

In addition, PR also significantly impacts on impulse buying decision in live streaming shopping. Managers should use a variety of techniques to lower the level of perceived risk of shoppers. Factors such as POC, PTL, PP, VA, CSI, and CCI could lower the shoppers' perceived risk. It is predicted that providing information intended to lessen the anxiety of making a significant purchase, introducing samples and trials that would provide positive experiences, and sending hesitant shoppers an encourages word will all help to boost impulsive buying. Sellers could benefit from a greater knowledge of people's purchasing impulsivity. Considering highly impulsive shoppers already have a higher tendency to react to impulsive buying cues, targeting consumers with low buying impulsiveness looks to be more beneficial (Grace Yuna Lee & Youjae Yi, 2008). Retailers could also encourage transactions agreed upon between the seller and the shoppers by providing related services like product warranty, 7 days no reason to return, freight risks, and so on to minimise the perceived risk of the shoppers and increase their buying desire (Huang & Suo, 2021).

5.4 Limitation of the Study

There are various drawbacks to this study that have been identified. The first constraint is that in the questionnaires, we did not restrict respondents' access to any type of live streaming commerce site, such as Lazada, Taobao, Shopee, and others. They simply answered the questions based on their most recent live streamed purchasing experience. This research is broad in scope and does not focus on any one live streaming commerce platform. Different platforms or products may yield different results for different consumers.

Additionally, this research focusses more on the external factors such as PP, PTL, POC, CSI, CCI, and VA only on consumers' impulse buying decision instead of product perspective as well as using perceived risk as the mediating variable towards impulse buying behaviours.

Moreover, the respondents' demographic status was determined to be uneven and only focus on respondents in Malaysia. Only a small number of non-student replies were collected. There is a limit of respondents from people of different nation, age group, occupation, and education level. Distributions made by posting a link on social media were thought to only obtain responses from people in related social groups. Respondents of similar nation, race, social class, income, and interests may limit the research findings.

5.5 Recommendation of Future Research

There are some suggestions to be proposed to solve the limitation as mentioned previously. First, researcher can develop a comparison study on specific Malaysia live streaming commerce platform with different product category and different generations for future study. Since different environment might causes different behaviour, Hence, future study can analyse how impulse buying behaviour will be different scenarios and different platform in order to have a deeper and better understanding in live streaming commerce. For example, the difference of impulse buying decision of live streaming commerce on Lazada and Shopee.

Furthermore, researchers might examine into various theoretical viewpoints and examine into other determinants, moderators, and control variables to gain a better understanding of the phenomenon. For instance, other affecting aspects such as personality with streaming services of live streaming commerce, product usefulness, and attitude toward streaming commerce could be explored further by researchers.

Finally, researchers can broaden the scope of the survey and extend the sample size in the future. Researchers can explore the live streaming commerce in another cultural context. To avoid responses from people of similar gender, ethnicity, occupation, and educational level, questionnaires should not be distributed privately. Academics in the future should strive for a more trustworthy method of questionnaire distribution in order to include more respondents from a variety of demographic backgrounds. To gather a wider range of responses, future researchers may want to consider employing a professional survey service.

5.6 Conclusion

In general, the results have proven that PR have partial mediation effect between the stimulus factors in live streaming commerce. All factors such as PP, PTL, and POC has positively influenced on impulse buying decision on live streaming commerce except for CSI, CCI, and VA. In short, while all the variables are determined from previous literature review, the research can be expanded by including other variables and theories to have a better understanding of IBD of live streaming commerce in the context of Malaysia.

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APPENDIX

Questionnaire

FACULTY OF ACCOUNTANCY AND MANAGEMENT

BACHELOR OF INTERNATIONAL BUSINESS (HONS)

FINAL YEAR PROJECT

SURVEY QUESTIONNAIRE

Title: A Study on Consumer's Impulse Buying Decision: Live Streaming Shopping on Cross-Border E-commerce Platform

Dear Sir/Madam,

I am a final year undergraduate student from Universiti Tunku Abdul Rahman (UTAR), currently pursuing in Bachelor of International Business (Hons). The aim of this questionnaire is to study on consumer's impulse buying decision: live streaming shopping on cross-border e-commerce platform.

This questionnaire comprises of 2 sections. You are required to answer ALL the following questions best in accordance with your knowledge. This survey will take you approximately 5-10 minutes to complete. For your information, all responses collected will be strictly kept confidential and use for academic purposes only. This survey data will be reported in a manner that does not associate the participants' name or identify information provided about the participant. We would like to offer you our heartfelt thanks and appreciation for the effort and time for participating.

Thank you for your participation.

Prepared by,

Leong Jing Ying

Section A: Demographic Profile, Screening Question, and General Question

INSTRUCTION: Please tick the appropriate answer that best describes yourself

1. Gender
   - ☐ Male
   - ☐ Female

2. Age (Years Old)
   - ☐ 18-27
   - ☐ 28-37
   - ☐ 38-47
   - ☐ >48

3. Education Level
   - ☐ High school or less
   - ☐ Diploma
   - ☐ Bachelor's Degree
   - ☐ Master's Degree
   - ☐ Doctoral's Degree

4. Occupation
   - ☐ Student
   - ☐ Office Worker
   - ☐ Self-employed
   - ☐ Others: _____

5. Have you ever bought product from live streaming shopping?
   - ☐ Yes

☐ No

6. Which platform do you use for live streaming shopping?

   ☐ Taobao

   ☐ Lazada

   ☐ Shopee

   ☐ Tiktok

   ☐ Others: _____

7. Frequency of watching live streaming shopping

   ☐ At least once each day

   ☐ At least once per week

   ☐ At least once per month

   ☐ At least once per three months

   ☐ At least once per half-year

   ☐ At least once per year

8. Time of watching live streaming shopping

   ☐ Less than 30 minutes

   ☐ 30 - 10 Hours

   ☐ 1 - 3 Hours

   ☐ 3 - 6 Hours

   ☐ Less than 6 Hours

Section B: Construct Measurement

INSTRUCTION: Please circle the best answer based on the scale of 1 to 7 [(1) =Strongly Disagree; (2) = Disagree; (3) = Somewhat Disagree; (4) = Neutral; (5) = Somewhat Agree; (6) = Agree; (7) = Strongly Agree] for the following sections.

Price Promotion (PP)

No.	**Questions**	**Strongly Disagree**	***Disagree***	***Somewhat Disagree***	***Neutral***	***Somewhat Agree***	***Agree***	***Strongly Agree***
1	I am easily attracted by price promotions.							
2	When it comes to price promotions, I cannot help buying							
3	The price promotion gave me a strong impulse to buy.							

Promotion Time Limit (PTL)

No.	**Questions**	**Strongly Disagree**	***Disagree***	***Somewhat Disagree***	***Neutral***	***Somewhat Agree***	***Agree***	***Strongly Agree***
1	I feel that streamers usually give a short promotional period.							

2	I feel like I have less time to decide whether to buy a sale or not.							
3	I have a feeling that the sales deadline for the seckill product will run out very soon.							

Perceived Opportunity Cost (POC)

No.	**Questions**	**Strongly Disagree**	***Disagree***	***Somewhat Disagree***	***Neutral***	***Somewhat Agree***	***Agree***	***Strongly Agree***
1	I feel like the number of items on seckill is limited, and if I do not buy it, someone else will snap it up.							
2	I feel like seckill products are so cheap that if I do not buy them, someone else will snap them up							
3	I feel like the product has a very short promotional time, and if I do not buy it, I'll miss it.							

Consumer-Streamer Interaction (CSI)

No.	**Questions**	**Strongly Disagree**	***Disagree***	***Somewhat Disagree***	***Neutral***	***Somewhat Agree***	***Agree***	***Strongly Agree***
1	Streamer is very happy to communicate with me.							
2	Streamers give corresponding feedback to my inquiries.							
3	I get a lot of good advice from streamers							

Consumer-Consumer Interaction (CCI)

No.	**Questions**	**Strongly Disagree**	***Disagree***	***Somewhat Disagree***	***Neutral***	***Somewhat Agree***	***Agree***	***Strongly Agree***
1	I will share my shopping experience and feelings with other consumers.							
2	I can communicate with other consumers smoothly.							

3	What other consumers said about the product helped me make my purchase decision.							

Visual Appeal (VA)

No.	**Questions**	**Strongly Disagree**	***Disagree***	***Somewhat Disagree***	***Neutral***	***Somewhat Agree***	***Agree***	***Strongly Agree***
1	Streamers make a clear presentation of the products for sale.							
2	The way the streamers present the products is very attractive							
3	The overall visual effect of the live streaming room is very good							

Perceived Risk (PR)

No.	**Questions**	**Strongly Disagree**	***Disagree***	***Somewhat Disagree***	***Neutral***	***Somewhat Agree***	***Agree***	***Strongly Agree***
1	I am afraid after-sales service is not good.							

2	I always feel uneasy about buying goods in the live streaming room.							
3	I worry that the prices on offer in the studio are higher than in other similar markets.							

Impulse Buying Decision (IBD)

No.	**Questions**	**Strongly Disagree**	***Disagree***	***Somewhat Disagree***	***Neutral***	***Somewhat Agree***	***Agree***	***Strongly Agree***
1	I did not plan it at all until I went into the live streaming room and decided to buy it.							
2	I bought the product without thinking it through at all.							
3	I was completely influenced by the mood of the moment when I made the purchase.							