EasyChair Preprint

№ 5726

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June 6, 2021

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Abstract. Live-stream shopping is growing exponentially in Malaysia but limited research has been conducted to investigate the driving factors that lead consumers to shop via live-stream. Thus, this research is aimed to establish the factors that affect the purchase intention of Malaysia online shoppers on live-stream shopping to fill this research gap. An integrated research model of Uses and Gratification Theory and Source Credibility Theory was used to investigate the purchase intention in a live-stream context. The integration of these three theories would provide a more comprehensive result as compared to merely adopt only one theory. A self-administered questionnaire was distributed in several states in Malaysia which yielded 252 sets usable responses. The data collected was then analyzed to provide empirical support for the hypotheses developed. This research then provides vast practical and theoretical contributions from the results obtained. In particular, this study provides better comprehension to retailers in understanding the motivating factors that lead consumers to complete the checkout process and thus assist in designing their business strategy accordingly.

Keywords: Live-Stream Shopping, Online Commerce, Uses and Gratifications Theory, Source Credibility Theory.

1 Introduction

A notable occurrence in e-commerce is the integration of live-stream and online shopping (Chen et al., 2017). Live-stream shopping is a new way of shopping through a mixed media which has social commerce attributes and unique media attributes where real-time interaction is offered (Cai et al., 2018). Individuals who sell their products or services in real time videos are known as live-stream sellers (Todd & Melancon, 2018), which includes social media influencers who are paid to promote merchants' products in live-stream (Cai et al., 2018).

While live-stream shopping has been around for some time, it is still an understudied area. This is significant as a number of e-commerce platforms in the country such as Lazada and Shopee utilizes this feature extensively (The Star, 2020). Therefore, this study attempts to investigate the variables that will trigger consumers' purchase intention in the context of live stream shopping. More specifically, this study integrates the Uses and Gratifications Theory with the Social Credibility Theory to develop the research framework. These two theories were developed for the context of media which are therefore suitable for this study given that live-stream is a form of media (Katz et al., 1973; Hovland & Weiss, 1951).

As such, the research objectives are to determine (1) the antecedents of purchase intention in the context of live stream shopping as well as (2) the robustness of incorporating the Uses and Gratifications Theory with the Social Credibility Theory. Overall, this study is posited to contribute to numerous novel findings and insights. Practically, this study provides significant value to numerous stakeholders, especially e-commerce sellers. Theoretically, this study extends the literature of purchase intention in the context of live stream shopping from the perspective of a developing nation.

2 Literature Review

2.1 Uses and Gratifications Theory

The Uses and Gratification Theory is an audience-centered approach to understanding the reasons people actively seek out certain media to obtain gratification. It is positivistic in its approach and holds heuristic value (Katz et al., 1973). Earlier on, this theory was used to look into the individual motivations behind the utilization of different traditional media such as newspaper, radio and so on. However, in recent times, it has been widely used to explore new media and communication technologies such as social networking sites (Hossain, 2019). This theory suggests several categorical reasons individuals use technology such as for entertainment (Leong et al., 2019) and to access information. The Uses and Gratifications Theory was integrated into the research model given its suitability with the subject matter of this study. In particular, it is a well-used and tested theoretical framework for understanding the reasons individuals engage with a certain media or platform. Moreover, it has been successfully utilized in the contexts of social media and other electronic retail segments (Ray et al., 2019) which are categorically similar to live-stream shopping.

2.2 Source Credibility Theory

Source Credibility Theory was introduced by Hovland and Weiss (1951) which postulated that the source of a communication is the most significant variable for consumers to determine the effectiveness and reliability of an information. There are certain characteristics of a particular source that affect the persuasiveness and impact of information. In particular, they suggested that the credibility of information depends on the source's attractiveness, expertise, and trustworthiness. Given its suitability with the subject matter of this research, the Source Credibility Theory was incorporated into the research framework. This is because a number of past studies have found that this theory is significant in contexts which are categorically similar to live-stream shopping such as social media (Lou & Yuan, 2018) and purchase intention (Chakraborty, 2019).

3 Hypotheses Development

3.1 Entertainment

Entertainment refers to the degree which can be perceived as fun, enjoyable, and pleasurable (Huang et al., 2017). Rationally, consumers feel satisfied when they feel pleasure and increase their willingness to acquire product or services via an online platform (Ramayah & Ignatius, 2005). Several empirical studies have found a significantly positive relationship between entertainment and purchase intention (Zamzuri et al., 2018; Tan et al., 2017). When it comes to live-stream shopping, entertainment is related to the fun and pleasurable experience which could be obtained via the interaction with the live-stream seller. Thus, the following hypothesis was developed:

H1: Entertainment has a significantly positive relationship with purchase intention.

3.2 Informativeness

Informativeness refers to the consumers' desire to obtain useful, timely and accurate information from a particular source (Zamzuri et al., 2018). The significance of informativeness as an antecedent of purchase intention has been empirically proven by a number of past studies (Zamzuri et al., 2018; Chaturvedi et al., 2016). In the context of this study, the source is referring to the live stream seller. If the live-stream seller is able to provide information regarding its products or trend that are accurate and complete in a timely manner, consumers are likely to make a purchase decision. Thus, the following hypothesis was developed:

H2: Informativeness has a significantly positive relationship with purchase intention.

3.3 Attractiveness

Attractiveness is the perception towards the source which includes physical appearance, personality, and similarity (Chekima et al., 2018). Consumers' acceptance of the information will increase if the information is deliberated by an attractive source (Wang & Scheinbaum, 2017). In the context of live-stream shopping, if the information or the product is conveyed by attractive live-stream sellers, consumers will have higher acceptance towards the information (Todd & Melancon, 2018). Thus, the following hypothesis was developed:

H3: Attractiveness has a significantly positive relationship with purchase intention.

3.4 Expertise

Expertise is the perceived extent of the understanding, skills, and knowledge of the source (Wang & Scheinbaum, 2017). The information conveyed by the live-stream seller who is an expert tend to have more influence over the consumers' decision (Todd & Melancon, 2018). The ability to persuade and convince will subsequently prompt consumers' purchase intention (Chekima et al., 2018). This is because consumers would place more trust towards the live-stream seller who deemed to be an expert (Khan et al., 2016). Therefore, the following hypothesis was developed:

H4: Expertise has a significantly positive relationship with purchase intention.

3.5 Trustworthiness

Trustworthiness refers to the degree of consumers' confidence placed in the information delivered by a particular source (Malik & Qureshi, 2017). In the case of this study, it relates to live-stream seller and the level of acceptance of the consumers towards the information. Information conveyed by a trusted seller while promoting products via live-stream will be increasingly believed and accepted by consumers (Todd & Melancon, 2018). Also, consumers will tend to have higher self-assured towards the products due to a higher level of trustworthiness which will then increase the purchase intention. Thus, the following hypothesis was developed:

H5: Trustworthiness has a significantly positive relationship with purchase intention.

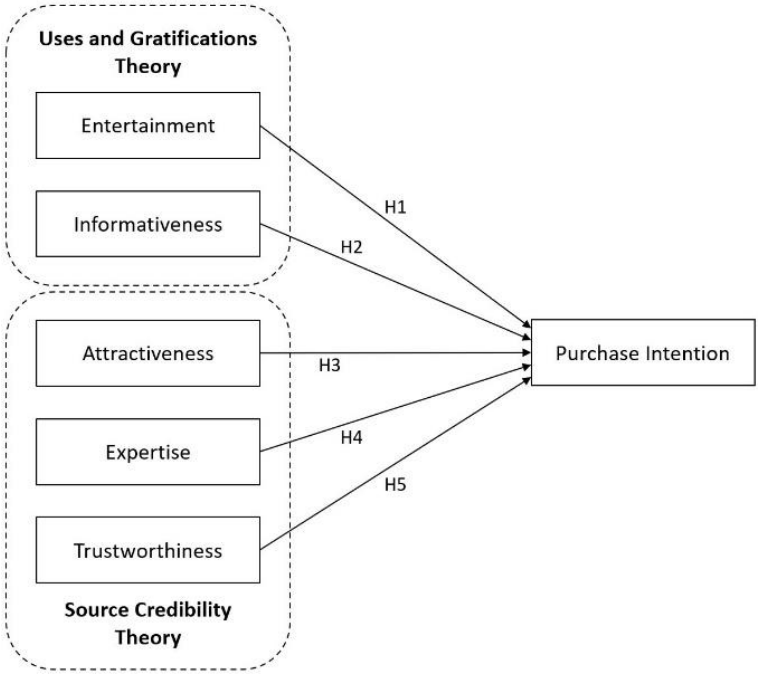

Fig. 1. Proposed Conceptual Model.

4 Methodology

The target respondents of this study are Malaysian internet users who have watched a promotional live-stream of a product or service. Non-probability sampling was selected as there is no sampling frame available for this group of people. Thus, this study utilized judgmental sampling as the respondents would have to fit certain requirements (Loh et al., 2019). More specifically, a qualifier question ("Have you ever watched a live-stream video content about a product or service?") was included in the questionnaire to filter out non-target respondents.

A survey was conducted in order to collect the data. This survey has three sections which are (1) cover page, (2) demographic, and (3) measurement items (Foo et al., 2018; Ooi et al., 2018; Leong et al., 2019). The demographic section covered the age, gender and other personal characteristics of the respondents. The ensuing section gauged the factors of entertainment (five items), informativeness (five items), attractiveness (four items), expertise (five items), trustworthiness (five items), and purchase intention (four items).

Overall, as shown in Table 1, there were a total of 28 questionnaire items which were adapted from Lim and Ting (2012), Choi and Lee (2019), as well as Peng et al. (2019). All measurement items were gauged using a seven-point Likert scale that ranges from (1) strongly disagree to (7) strongly agree. After that, the minimum sample size was calculated using the ratio of 1 item to 4 responses (Hinkin, 1998). Hence, the minimum sample size was calculated to be 112 responses. Overall, this study collected 252 responses which were subsequently analyzed.

Table 1. Measurement Items.

Construct	Measurement Item
Entertainment	EN1: I find it entertaining to watch a live video content that sells/promotes product/service.
	EN2: I find that a live video content that sells/promotes product/service is fun to watch.
	EN3: I feel excited when I watch a live video content that sells/promotes product/service.
	EN4: Watching a live video content that sells/promotes product/service provides me with lots of enjoyment
	EN5: I have fun when interacting with live-stream seller.
Informativeness	IN1: It is important that the live-stream seller is able to give me product/service information that is of interest to me.
	IN2: Accurate product/service information from the live-stream seller improves my shopping effectiveness
	IN3: Timely information of product/service from the live-stream seller improves my shopping performance.
	IN4: Product/service information from the live-stream seller that is useful in aiding my shopping decisions is appreciated.
	IN5: Product/service information from the live-stream seller that makes it easier for me to compare product/service choices when shopping online is desirable.
Attractiveness	AT1: The live-stream seller is good looking (pretty/handsome).
	AT2: The live-stream seller has a stylish image.
	AT3: The live-stream seller is very attractive.
	AT4: Others will want to look like the live-stream seller.
Expertise	EX1: The live-stream seller knows about the product/service very well.
	EX2: It is an undeniable fact that the live-stream seller is an expert on the product/service.
	EX3: The live-stream seller has a lot of experience with the product/service.
	EX4: The live-stream seller is likely to see/read a lot of reference sources/materials related to the product/service.
	EX5: The live-stream seller gives viewers information about the product/service.
Trustworthiness	TR1: The live-stream seller will be sincere every time he/she promotes/sells the product/service.
	TR2: The live-stream seller will not either exaggerate or lie about the product/service.
	TR3: The live-stream seller will not pretend to know about what he/she does not know well about the product/service.
	TR4: The live-stream seller will talk validly and reasonably about the product/service.
	TR5: The live-stream seller will frankly present his/her position, thoughts and opinions about the product/service.
Purchase Intention	PI1: The probability that I would consider buying the product/service from live-stream seller is high.
	PI2: If I were to buy product/service, I would consider buying it from the live-stream seller.
	PI3: The likelihood of my purchasing the product/service from the live-stream seller is high.
	PI4: My willingness to buy the product/service from the live-stream seller is high.

5 Analysis

5.1 Demographic Profile

Based on Table 2, all of the respondents have previous experience with live-stream shopping given as it is a filter question. Moreover, a majority of the respondents are female, between the ages of 20-25 years old, and possess a bachelor degree / professional qualification.

Table 2. Descriptive Analysis.

Characteristics	Description	Count	Percentage
Experience with Live-Stream	Yes	252	100.0
Shopping	No	0	0.0
Gender	Male	116	46.0
	Female	136	54.0
Age	20-25 years old	166	65.9
	26-30 years old	39	15.5
	31-35 years old	23	9.1
	Above 36 years old	24	9.5
Highest Level of Education	Primary / Secondary school	54	21.4
	Diploma / Advanced diploma	51	20.2
	Bachelor degree / Professional qualification	140	55.6
	Master / PhD degree	7	2.8
Occupation	Self-employed	44	17.5
	Employed	98	38.9
	Unemployed	16	6.3
	Student	93	36.9
	Retired	1	0.4
Monthly Income	Dependent (zero income)	97	38.5
	RM1,000 and below	21	8.3
	RM1,001-RM3,000	52	20.6
	RM3,001-RM5,000	49	19.4
	Above RM5,000	33	13.1

5.2 Reliability, Multicollinearity, and Normality

Based on Table 3, reliability has been confirmed as all values of Cronbach's alpha for each construct are above the threshold of 0.7 (Hew et al., 2019; Loh et al., 2020; Ooi et al., 2020). Furthermore, the issue of multicollinearity is absent as all of the values for variance inflation factor are less than 5 (Hew et al., 2018; Tan et al., 2018; Lee et al., 2020; Wong et al., 2020a; Wong et al., 2020b; Hew et al, 2020). Moreover, the data is considered to be normal given that all values for skewness and kurtosis are within ±3 and ±10 respectively (Saunders et al., 2019).

Table 3. Reliability, Multicollinearity, and Normality.

Construct	Cronbach's Alpha	Variance Inflation Factor	Measurement Item	Skewness	Kurtosis
Entertainment	0.915	1.413	EN1	-0.380	-0.403
			EN2	-0.333	-0.369
			EN3	-0.047	-0.603
			EN4	-0.010	-0.592
			EN5	-0.163	-0.674

Informativeness	0.922	1.925	IN1	-0.771	0.569
			IN2	-0.617	0.069
			IN3	-0.399	0.096
			IN4	-0.604	0.264
			IN5	-0.559	0.235
Attractiveness	0.853	1.409	AT1	-0.349	-0.252
			AT2	-0.395	-0.302
			AT3	-0.397	-0.103
			AT4	-0.149	-0.500
Expertise	0.884	2.515	EX1	-0.736	0.090
			EX2	-0.220	-0.393
			EX3	-0.386	-0.104
			EX4	-0.266	-0.20
			EX5	-0.609	0.292
Trustworthiness	0.907	2.291	TR1	-0.609	0.090
			TR2	-0.005	-0.290
			TR3	0.114	-0.397
			TR4	-0.341	-0.040
			TR5	-0.261	-0.239
Purchase Intention	0.949		PI1	-0.205	-0.358
			PI2	-0.248	-0.795
			PI3	-0.034	-0.400
			PI4	-0.007	-0.420

5.3 Multiple Linear Regression

As in Table 4, entertainment (p=<0.001), informativeness (p=0.041), attractiveness (p=0.022), and trustworthiness (p=0.006) have significant effects on purchase intention as the p-values are all below 0.05. In addition, these four constructs have a positive relationship with purchase intention whereby entertainment (β=0.445) has the greatest effect, followed by trustworthiness (β=0.232), informativeness (β=0.163), and attractiveness (β=0.146). However, expertise (p>0.05) was found to be insignificant in determining purchase intention. Therefore, all hypotheses are supported except H4. Furthermore, the model has an R^2 of 0.454 which indicates that 45.4% of the changes in the dependent variable can be accounted for by all the variables.

Table 4. Multiple Linear Regression.

Hypothesis	Construct	Parameter Estimates	Standardized Estimates	T-value	p-value
	(Constant)	-0.491		-1.407	<0.001
H1	Entertainment → Purchase Intention	0.445	0.415	7.406	<0.001
H2	Informativeness → Purchase Intention	0.163	0.134	2.049	0.041
H3	Attractiveness → Purchase Intention	0.146	0.129	2.304	0.022
H4	Expertise → Purchase Intention	-0.001	0.000	-0.006	0.995
H5	Trustworthiness → Purchase Intention	0.232	0.198	2.776	0.006

Overall, the multiple linear regression equation is as follows.

$$PI= -0.491+0.445\ (EN) +0.163\ (IN) +0.146\ (AT) -0.001\ (EX) +0.232\ (TR)$$

6 Discussion

The results show that entertainment is the most significant antecedent of purchase intention in the context of live-stream shopping. This could be attributed to the purpose of live-stream which is also as a form of entertainment via engagement (Yokoi, 2020). In addition, purchase intention was found to be affected by attractiveness. This is because Asian consumers are more swayed if the live-stream personality is famous or good-looking. Furthermore, informativeness and trustworthiness were also found to be significant factors in this context. These results show that the real-time features of live-stream enable sellers to provide information more accurately and timely. More specifically, sellers are able to perform a live demonstration and explanation while at the same time allow viewers to ask questions and get an immediate response. Conversely, expertise was discovered to be not significant in this context. This could be due to companies getting celebrities as ambassadors or spokespersons for the live-stream. Hence, viewers may perceive that celebrities may not be experts with the product but are still engaged given their popularity and attractiveness.

Based on the findings, there are several implications that live-stream sellers can look into to better develop their live-stream strategy to better sway the viewers' purchase intention. Firstly, live-stream sellers should take advantage of the features of live-stream which allows instant replies, comments, and reactions button to make the live-stream more entertaining to viewers by engaging them. Additionally, live-stream sellers should engage more with their audience by giving timely and accurate information. This can be in the form of honest demonstrations and promotions by describing the limitations of the product to increase the trustworthiness of information. Finally, they should engage celebrities and social media influencers to feature in the live-stream to attract viewers.

In terms of theoretical implications, this study has found that the integration of Uses and Gratifications Theory and Source Credibility Theory is robust in the live-stream shopping context. This study's research model focused on the factors that are relevant to the features of live-stream shopping. More specifically, Uses and Gratifications Theory addressed the real-time and entertainment aspects of live-stream while Source Credibility Theory looked into the relationship of the live-stream sellers' attributes with the viewers' purchase intention.

Similar to other studies, this one also has its own limitations. Firstly, as this study was conducted purely in Malaysia, the findings may not accurately reflect the situation in other countries given the diverse differences (Yan et al., 2020). Hence, future studies should carry out a comparative study among multiple countries in order to overcome this limitation. Moreover, the cross-sectional nature of this study does not allow for the analysis of differences over a period of time (Lew et al., 2020). Thus, future studies should carry out a longitudinal study given that live-stream shopping is still a novel phenomenon.

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