Factors Impacting Trust, Satisfaction, and Purchase Intention Via Social Live Stream Commerce with Thai Influencers

Noppachamai Chavee* & Rawin Vongurai

Graduation School of Business and Advanced Technology Management, Assumption University, Samut Prakan, 10570 Thailand.

Article info

Abstract

Due to the impact of COVID-19 pandemic, live streaming has become a popular feature for social media users to participate in real-time broadcasting and purchasing activities. Marketers, brands, and social influencers are utilizing this feature as a new social commerce channel to drive awareness and sales to their products or services. Thailand is one of the leading countries in social live stream commerce from the increasing numbers of users' engagement, sales, and overall gross merchant value. Therefore, the objective of this study was to investigate factors impacting trust, satisfaction, and purchase intention of users via live streaming commerce conducted by Thai social influencers. The quantitative approach was applied with non-probability sampling techniques to collect data through online questionnaire distribution. Samples of 480 sets were collected from Thais who had experience in purchasing from Thai influencers via social live streaming. Data was analyzed using the Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) for model fitness and hypotheses testing. CFA result showed that data was reliable to affirm measurement model fitness and SEM has proven that purchase intention can be explained by the structural model. Trust, engagement, perceived value, and social presence have direct and significant impact on purchase intention, which confirm the theory of stimulus-organism-response. It is suggested that marketers, brands, and influencers focus on earning trust from users, establishing high levels of interaction at live stream commerce to boost viewer engagement, create values from live stream shopping, and build social-friendly personality to stimulate potential buyers.

Introduction

Live streaming has crucially shifted the behaviors and interactions of e-sellers and buyers (Wongkitrungrueng & Assarut, 2020). Traditional e-commerce only allows buyers to view product information in text and image format, while live streaming commerce allows e-sellers to interact, present and demonstrate product usage with buyers in real-time . Not only e-sellers, social influencers such as celebrities and key opinion leaders can also become well-known live streamers and earn engagement

* Corresponding Author
e-mail: noppachamai@gmail.com

from their expertise and knowledge in the specific field of products (Geng, Wang, Chen, Song & Yu, 2020). Live streamers or influencers demonstrate product features, attributes, and usages in order for the viewers to get actual, dynamic and detailed information to encourage their purchase decisions (Sun, Shao, Li, Guo, & Nie, 2019). Hence, product brands have recently utilized social influencers to drive brand awareness, promote marketing campaigns and consumers' purchase intentions, or so-called influencer marketing (Lou & Yuan, 2018). Social influencers can be categorized in different ways, based on number of followers, type of streaming content, or influence level. For example, mid-tier influencers (50K-500K followers), macro influencers (500K- 1 million followers), or mega influencers (more than 1 million followers) (I-dac Bangkok, 2021). Social influencers can be brand endorser, product reviewer, or e-sellers of their own merchandise via live stream commerce.

The success of live streaming commerce has been shown in various platforms and markets globally. Especially in China where its Gross Merchandise Value (GMV) has predicted to reach 423 billion USD by 2022 (McKinsey, 2021). As well as Thailand, one of the leaders in social media users, that has high adoption rate and significant growth in social live stream. Thai social commerce is expected to reach 70 percent of the total Thailand's e-commerce market share in 2024 from its current market share of 62 percent (Leesa-nguansuk, 2021). Research by YouGov has found that 56 percent of Thais has engaged in social commerce via the top three platforms with built-in commercial features, namely, Facebook at 58 percent, Line at 35 percent, and Instagram at 21 percent (Ramadila, 2021).

The growth in adoption of live stream commerce has implied a huge opportunity for businesses and marketing practitioners to further examine consumer purchasing behavior constructed in live stream commerce for improvement in their marketing strategies that ultimately induce users' purchase intention. This research has examined factors impacting purchase intentions via Facebook live streaming commerce conducted by Thai influencers. Facebook as the focus in this study is based on Facebook being the largest social commerce platform in Thailand (Ramadila, 2021). The research topic of live streaming commerce and influencer marketing in Thailand are still at an early stage. Also, with the interesting predictions for growth in this market, it is important to understand the factors impacting users'

purchase intentions via stimulation of live streaming commerce by Thai influencers. The literature review underlined that there are many factors influencing buyers behavior, attitude and purchase intention when participating in live streaming commerce. Hence, this study aimed on investigating factors based on the related research theories of Stimulus-Organism-Response (S-O-R) framework, Uses and Gratification Theory (UGT), Flow Theory, and Value based Adoption Model (VAM) that impact trust, satisfaction, and purchase intention. The factors studied comprise of social presence, engagement, flow, and perceived value.

Social presence is capturing of user-experience in communication or interaction between users in social environments (Pratama, Meiyanti, Noprisson, Ramadhan, & Hidayanto, 2017). Current technologies of social media or e-commerce platforms have enhanced the communication and interaction, which can significantly affect trust and purchase intention of users (Attar, Amidi, & Hajli, 2022; Hajli, 2015). Real-time interactions during live streaming commerce create social presence that portray interpersonal communication and reduce psychological distance between buyers and influencer live streamers (Ming, Jianqiu, Bilal, Akram, & Fan 2021). The shorter distance and media richness from social presence can easily form trust as live stream commerce mimics face-to-face interaction between e-seller and buyers (Al-Adwan & Kokash, 2019; Chong, Lacka, Li, & Chan, 2018; Fan, Zhou, Yang, Li, and Xiang, 2019). In which, trust can predict the purchasing intention of social commerce consumers from the products' credibility and goodwill (Farivar, Turel, & Yuan, 2017; Hajli, Sims, Zadeh, & Richard, 2017; McLean, Osei-Frimpong, Wilson, & Pitardi, 2020). Satisfaction during buying experience also proved to be a result of social presence and trust while favorable response also suggested to influence positive buying intention (Gan & Wang, 2017; Wang, Huang, & Davison, 2020; Zhu, Li, Wang, He, & Tian, 2020). The positive correlations between social presence and trust gained from credibility and quality of information with user satisfaction were also mentioned in various past studies (Attar, Shanmugam, & Hajli, 2021; Chou, Chen, & Lin, 2015; Nisar & Prabhakar, 2017)

Another common construct in live streaming commerce is engagement (Yu & Zheng, 2021). Engagement is the intensity of consumers' connection, interest, and participation with online brand activities. In live streams, viewers can engage with live streamers by using functions of like, comment, or chat while live

streamers can see those engagement in real-time to react back. Engaged consumers have higher potential to endorse service or purchase (Hsu, 2017; Rahman, Moghavvemmi, Suberamanaian, Zanuddin, & Bin Md Nasir, 2018; Toor, 2017; Ziadkhani & Palmet, 2019). These ongoing interactions also stimulate flow for live stream viewers to concentrate on product pitching activities (Ming et al., 2021). Consumers who are intensely involved in the virtual environment activities are more likely to feel the urge to purchase products online (Chang, Chih, Liou, & Yang, 2016). Greater level of flow can help entertained and involved in continuous action on social behavior which has stated to positively influence purchase intention of users (Chen, Hsiao, & Wu, 2018; Chen & Lin, 2018).

Live streaming commerce also allows buyers to perceive more value of products as they have more time and more detail to consume on product information compared to other e-commerce channels (Sun et al., 2019). Yang (2020) claimed that customers who received useful information for online shopping offered by social recommenders, customers' purchase intention also increased. Likewise, Chen et al.(2018) and Permatasari and Kuswadi (2017) have confirmed that perceived value had a significant positive impact on social commerce purchase intention.

The following sections of this study have outlined the research objectives, conceptual framework, research methodology, and results from data analysis that derive research finding to suggest influencers, e-vendors, marketers, streaming platform developers to enhance consumers' trust, satisfaction, and purchase intention via social live stream commerce.

Objectives

1. To examine the significant impact of social presence on trust in live stream commerce conducted by social influencers (H1).

2. To examine the significant impact of social presence and trust on satisfaction in live stream commerce conducted by social influencers (H2 - H3).

3. To examine the significant impact of social presence, trust, satisfaction, engagement, flow, perceived value on purchase intention in live stream commerce conducted by social influencers (H4 - H9).

Conceptual Framework

The conceptual framework of this research as shown in Figure 1 was developed from related theories of Stimulus-Organism-Response (S-O-R) framework, Uses and Gratification Theory (UGT), Flow Theory, Value based Adoption Model (VAM), and relevant empirical previous studies. S-O-R framework suggests that the environment is able to create a stimulus (S) which can trigger user organisms (O), and later incite users' response (R) of a certain behavior (Mehrabian & Russell, 1974). In this conceptual framework, social presence is studied as a stimulation to influence trust and satisfaction as organisms which later create responses of purchase intention (Zhu et al., 2020).

UGT is a commonly used concept in social media studies that users' behavior and purchase intention can be predicted by gratification such as social presence and social interaction and engagement (Khan, 2016; Wang, Yang, & Chen, 2016). Engagement is suggested to be a factor impacting business performance and significantly related to purchase intention (Brodie, Hollebeek, Jurić, & Ilić, 2011; Toor, Husnain, & Hussain, 2017).

Flow theory has been used to describe the immersive experience when users participate in activities with an extreme focus. The relationship between flow and purchase intention has been studied and confirmed by social commerce researchers (Gao & Bai, 2014).

VAM explains purchasing behavior of users under influence of value perception (Gupta & Kim, 2010). The theory suggested that when perceived value is positive, it would also create a positive effect on purchase intention (Dodds, Monroe, & Grewal, 1991). This relationship is also supported in the context of social commerce from the study of Chen et al., (2018).

From the mentioned theories and previous studies, seven variables and nine hypothesis statements were proposed to study the relationship among variables and purchasing behavior of social media users during live stream commerce. The proposed hypothesis statements are:

H1: Social presence has a significant impact on trust

H2: Social presence has a significant impact on satisfaction

H3: Trust has a significant impact on satisfaction

H4: Social presence has a significant impact on purchase intention

H5: Trust has a significant impact on purchase intention

H6: Satisfaction has a significant impact on purchase intention

H7: Engagement has a significant impact on

purchase intention

H8: Flow has a significant impact on purchase intention

H9: Perceived value has a significant impact on purchase intention
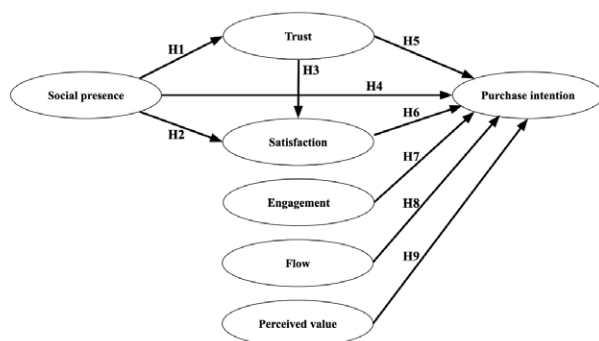

Figure 1 Conceptual Framework

Research Methodology

This research adopted a quantitative approach as a systematic and measurable method. The data of study was collected by using online questionnaires as a survey instrument which the measurement items were adapted from previous research with similar context of study. The adapted questionnaires were reviewed by three experts to validate content consistency under the Item Objective Congruence (IOC) process. The researcher also conducted pilot testing of verified questionnaires with 50 test participants before distributing the actual survey. Sampling techniques applied for data collection were purposive or judgmental sampling, and convenience sampling. The collected data was then analyzed using confirmatory factor analysis (CFA) and structural equation model (SEM) to test the construct and discriminant validity, fitness of research model, as well as research hypotheses.

1. Population and Samples

The selected target population of this research needs to pass qualifications of being Thai people aged above 18 who are experienced in purchasing products or services via live streaming on Facebook conducted by social influencers with followers more than 10,000. The sample size was determined by using the calculation tool on DanielSoper.com. For 7 latent variables, 28 observed variables, and a probability level at 0.05, the result has suggested a minimum sample size of 425 participants (Soper, 2021). The researcher has obtained 480 samples to cover the minimum.

The researcher has then applied three steps of non-probability sampling techniques to reach target respondents. First step was judgmental sampling to select Facebook as a social commerce platform for the study. Facebook is a social media platform that ranked 1st in social commerce engagement in Thailand and registered by more than 50 million users (Ramadila, 2021). Second step was also judgmental sampling to select tiers of Thai social influencer. The researcher targeted only mid-tier and above influencers who have over 10,000 followers. The number of followers reflected that these influencers are key opinion leaders and have sufficient buyers for measuring their attitude during live stream commerce. Third, convenience sampling was applied. The questionnaire was distributed online to Thai people aged over 18 and willing to participate. Online channel was chosen as it is the most convenient channel for the researcher to obtain data during the Covid-19 pandemic.

2. Research Instrument

After the questionnaire was verified for internal consistency with IOC and pilot test, online questionnaire form was created by using Google Form. The questionnaire consisted of three sections. The first section was screening questions where the respondent is asked to answer yes or no in order to filter target respondents. In case that the response is no this means that the respondent is not qualified and asked to end completing the questionnaire. In the second section, six demographic information questions are listed to indicate background and preferences of the respondents. Lastly, 28 measurement items of seven variables were assessed by using a five-point Likert scale to rate level of agreement or disagreement.

3. Collection of Data

The questionnaire was distributed online by posting the Google form link on social media groups and accounts such as Facebook and Twitter as well as chat platforms such as LINE. The data were collected during January to April 2022. In total 503 answers from respondents were received but only 480 were qualified to proceed for data analysis.

4. Data Analysis

Preliminary data analysis was conducted with the data obtained for data screening and preparation. At this stage, normality, outlier, data transformations, multicollinearity, linearity, and homoscedasticity of the data was verified. Normality of data was guaranteed with values for skewness and kurtosis between -2 and +2 (George & Mallery, 2010). Data transformation was not

done as outliers from multivariate calculation was not found. In addition, the researcher also examined Multicollinearity's problem via correlation coefficient and found that all strengths of correlation between two variables were less than 0.8. According to Studenmund (1992), this reflected that no multicollinearity's problem was found.

Then the data was assessed by CFA and SEM to find construct validity, convergent validity (factor loading, composite reliability, average variance extracted), discriminant validity and model fit.

Results

1. Demographic Results

Seven demographic aspects were obtained from 480 valid respondents. Majority of respondents' were aged between 18-24 years old (36.7%), followed by 25-34 years old (30.8%), 35-44 years old (16.5%), 45-54 years old (12%), and age above 55 (4%). Over half of respondents were female (62%) compared to male (25.5%) and the rest prefer not to identify their gender (12.5%). In terms of education level, respondents had graduated with bachelor's degree at 56.2%, master's degree at 38.8%, and doctoral degree at 5%. Income range of respondents were grouped as 0.9% with below 15,000 THB per month, 14.2% within the range of 15,001-30,000 THB, 29.3% within the range of 30,001-50,000 THB, 29.0% within the range of 50,001-70,000 THB, 19.1% within the range of 70,001-100,000 THB, and 7.5% had over 100,000 THB per month.

Questions regarding live stream commerce behaviors showed that most respondents shopped from social live streaming around 1-3 times per month (64.7%) while others have monthly frequency of purchase at 4-6 times (31.3%), 7-9 times (3%), and over 9 times (1%), respectively. Their preference on tiers of social influencers they purchase with, by the highest to the lowest, were Mega influencers (31.8%), Macro influencers (27.9%), Mid-tier influencers (27.4%), and Micro influencers (12.9%). The top three out of nine most frequent purchase categories were beauty items such as makeup and skincare at 24.8%, fashion and clothing at 19.4%, and food and cookery at 18.0%.

2. Confirmatory Factor Analysis (CFA)

In order to analyze the validity of variable items and the result for the measurement model, Confirmatory Factor Analysis was conducted. Construct validity of this study was measured by verification of convergent validity and discriminant validity. Convergent validity

tests the interaction between the constructs in the conceptual framework (Carlson & Herdman, 2012). It was verified with Cronbach's alpha (CA) value above 0.6 (Cronbach, 1951), factor loading at value higher than 0.5 (Chen & Tsai, 2007), Composite Reliability (CR) at value high than 0.6, and Average Variance Extracted (AVE) at value higher than 0.4 (Fornell & Larcker, 1981). According to Fornell and Larcker (1981), even AVE is less than 0.5, but composite reliability is higher than 0.6, the convergent validity of the construct is still suggested to be supportive. The statistical result of construct validity from CFA is presented in Table 1.

Table 1 Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of items	Cronbach's alpha	Factor Loading	CR	AVE
Social presence (SP)	Sun et al. (2019)	4	0.770	0.644-0.710	0.772	0.459
Trust (TR)	Zhu et al. (2020)	3	0.886	0.830-0.879	0.887	0.723
Satisfaction (ST)	Zhu et al. (2020)	3	0.772	0.613-0.810	0.777	0.541
Engagement (EG)	Toor et al. (2017)	6	0.857	0.682-0.740	0.857	0.500
Flow (FL)	Chen et al. (2018)	3	0.858	0.761-0.865	0.861	0.675
Perceived value (PV)	Chen et al. (2018)	4	0.814	0.645-0.794	0.816	0.527
Purchase intention (PI)	Toor et al. (2017)	5	0.804	0.635-0.706	0.807	0.456

Note: Composite Reliability (CR); and Average Variance Extracted (AVE)

Discriminant validity in this study applied Fornell and Larcker (1981) technique which calculates square root of each AVE and compares with coefficient of intercorrelated variable. Based on the result of calculation, the AVE square root of each variable was larger than all inter-construct/factor correlations as shown in Table 2. Thus, discriminant validity of this study is confirmative.

Table 2 Discriminant validity

	ST	SP	TR	EG	FL	PV	PI
ST	**0.736**						
SP	0.508	**0.677**					
TR	0.339	0.643	**0.850**				
EG	0.162	0.532	0.542	**0.707**			
FL	0.223	0.265	0.304	0.213	**0.821**		
PV	0.356	0.552	0.512	0.549	0.253	**0.726**	
PI	0.311	0.653	0.661	0.240	0.671	0.675	

Note: The diagonally listed value is the AVE square roots of the variables. Satisfaction (ST), Social Presence (SP), Trust (TR), Engagement (EG), Flow (FL), Perceived Value (PV); and Purchase Intention (PI).

3. Structural Equation Model (SEM)

This research has applied AMOS, a statistical tool which is able to run structural equation models distributed by SPSS and specify the fit of the structural research model. The Goodness of Fit (GoF) determines the degree to which the structural equation model fits the collected data (Schermelleh-Engel, Moosbrugger, & Müller, 2003). The fitness was evaluated by comparing the acceptable value of each GoF index referenced from previous literature with the statistical value from this study. The results in Table 3 showed that the value of CMIN/DF, GFI, AGFI, NFI, CFI, TLI, and RMSEA were greater than the acceptable value. In other words, the fitness of research conceptual model was affirmative.

Table 3 Goodness of Fit

Goodness-of-Fit Indices	Criterion	Acceptable Values	Value of Measurement Model	Value of Structural Model
CMIN/DF	Hair, Black, Babin, Anderson, and Tatham (2006)	< 3.00	1.508	2.514
GFI	Sica and Ghisi (2007)	≥ 0.85	0.934	0.885
AGFI	Sica and Ghisi (2007)	≥ 0.80	0.918	0.862
NFI	Al-Mamary and Shamsuddin (2015)	≥ 0.80	0.920	0.862
CFI	Hair et al. (2006)	≥ 0.90	0.971	0.912
TLI	Hair et al. (2006)	≥ 0.90	0.967	0.902
RMSEA	Pedroso et al. (2016)	< 0.08	0.033	0.056

Note: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation

4. Research Hypotheses Testing

The significant impacts between variables were measured and resulted in hypothesis confirmation. The findings reported that H1, H2, H4, H5, H7, and H9 were supported at t-value greater than 1.98 and the significant level of probability at p=0.05 while H3, H6, and H9 were not supported. T-value represents the variation size of sample, hence the higher magnitude, the greater evidence supporting the hypothesis.

H1 is supported that social presence has a significant impact on trust with standardized path coefficients at 0.691 and t-value of 11.369. This confirmatory result is also found in previous literature related to social commerce, social community platform, and ecommerce by Zhu et al. (2020), Fan et al. (2019), Al-Adwan and Kokash (2019), and Weisberg, Te'eni, and Arman (2011). This implies that social presence of influencers conducting live streams is related to the viewers' attitude of trust. Key social presences such as warmth and friendliness, sense of personality and human contact are important to construct feelings of trust and confidence over the influencers who are the sellers of the live stream commerce.

H2 is supported that social presence has a significant impact on satisfaction. The standardized path coefficients and t-value between these two variables were 0.524 and 5.623, respectively. This similar finding is also found in research by Zhu et al. (2020), Park, Jung, and Cho (2018), Foroudi, Cuomo, and Foroudi (2019), and Mirkovski, Jia, Liu, and Chen (2018) in research context related to social commerce and mobile social platforms. It can be interpreted that the feeling of being satisfied and pleased with the influencers and the experience of viewing and shopping from live commerce are influenced by viewers' attitudes on social presence of influencers.

H3 is not supported that trust has a significant impact on satisfaction due to standardized path coefficient between these two variables was -0.011 and t-value -0.273. Thus, the viewers' trust on social influencer live stream commerce has no impact on their satisfaction. This is contradicting results from researchers in social commerce and ecommerce context by Zhu et al. (2020), Lin, Wang, and Hajli (2019), Beyari and Abareshi (2018), and Shirazi, Adam, Shanmugam, and Schultz (2020). However, the similar result of insignificant relationship between trust and satisfaction was found in the research of Sikdar and Makkad (2015) in the field of online banking adoption and Pappas, Pateli, Giannakos, and Chrissikopoulos (2014) who found that trust and satisfaction does not matter or relate for high or low experienced online shopping customers.

H4 is supported that social presence has a significant impact on purchase intention with standardized path coefficients at 0.205 and t-value of 2.298. This reflected that social presence could construct purchase intention behavior for the viewers of live stream commerce conducted by social influencers. The result is supported with previous studies conducted by Sun et al. (2019) in live stream shopping, Weisberg et al. (2011), and Hajli et al. (2017) in social commerce.

H5 is supported that trust has a significant impact on purchase intention. The standardized path coefficients and t-value between these two variables were 0.381 and 4.877, respectively. This finding showed that a feeling of trust created by influencer through live streaming is able to create confidence and willingness to purchase which was confirmed by previous studies such

as Farivar et al. (2017), Li, Peng, Jiang, and Law (2017), Al-Adwan and Kokash (2019). If trust was increased, the intentions to purchase on social network platform also increased accordingly.

H6 is not supported that satisfaction has a significant impact on purchase intention due to standardized path coefficients between these two variables was -0.011 and t-value -0.181. Thus, satisfaction toward influencer of live stream commerce has no impact on purchase intention. This is inconsistent with previous studies in subjects of online commerce and social media such as Gan and Wang (2017), and Chen and Chang (2018). However, the relationship between satisfaction and purchasing behavioral intention was also found as not supportive in some other studies. For example, Wang et al. (2020), Chang, Hsu, and Yang (2018), Lee and Wu (2017), and Kabadayi and Gupta (2011). The affection of viewers toward social live influencers and satisfaction in this live commerce activity could not directly influence their purchasing intention.

H7 is supported that engagement has a significant impact on purchase intention with standardized path coefficient of 0.346 and t-value of 6.429. This result implied that engagement is the strongest predictor on behavioral intention of purchasing with influencers' live stream commerce. This result also confirmed consumer engagement studies conducted by Toor et al. (2017), Hollebeek, Glynn, and Brodie (2014), Hsu (2017) and Erdogmus and Tatar (2015). Engagement behaviors of live stream viewers and influencers' fans, such as following and visiting the fanpage, frequently watch and interact in live stream (comments and likes) and participate in activities as part of the influencers' social community were proven to have strong influence over purchase intention.

H8 is not supported that flow has a significant impact on purchase intention due to standardized path coefficient between these two variables was -0.004 and t-value -0.083. This finding revealed that flow cannot determine purchase intention. No matter to what degree the viewers focuses during the live stream, it could not lead to purchasing intention. This is contradicted with flow theory proved by Animesh, Pinsonneault, Yang, and Oh (2011), Gao and Bai (2014), Novak, Hoffman, and Yung (2000), Smith and Sivakumar (2004), and Huang (2012). However, flow theory on behavioral intention was found not related in some studies such as Bittner and Shipper (2014), Hsu and Lin (2021). While in some studies the relationship of flow and purchase intention

was found to be only partially supported, such as research by Wu and Chang (2005), Wang, Ko, and Wang (2022), and Mustafi and Hosain (2020).

H9 is supported that perceived value has a significant impact on purchase intention by standardized path coefficients of 0.342 and t-value of 6.273. The interpretation of this result means that perceived value was a significant construct to create purchase intention. Viewers who perceived that the amount of time and money spent with influencer live stream commerce were valuable and beneficial experiences are likely to become buyers. This result was similar to past studies of Chen et al. (2018), Permatasari and Kuswadi (2017), Mao, Zhu, and Sang (2014), and Chen (2012).

The summary of nine hypotheses are presented in Table 4 and the relationships between constructs is illustrated as a structural model in Figure 2.

Table 4 Hypotheses Result

Hypotheses	Path	Standardized path Coefficients	T-Value >1.98	Results
H1	Social presence → Trust	0.691	11.369*	Supported
H2	Social presence → Satisfaction	0.524	5.623*	Supported
H3	Trust → Satisfaction	-0.011	-0.273	Not Supported
H4	Social presence → Purchase intention	0.205	2.298*	Supported
H5	Trust → Purchase intention	0.381	4.877*	Supported
H6	Satisfaction → Purchase intention	-0.011	-0.181	Not Supported
H7	Engagement → Purchase intention	0.346	6.429*	Supported
H8	Flow → Purchase intention	-0.004	-0.083	Not Supported
H9	Perceived value → Purchase intention	0.342	6.273*	Supported

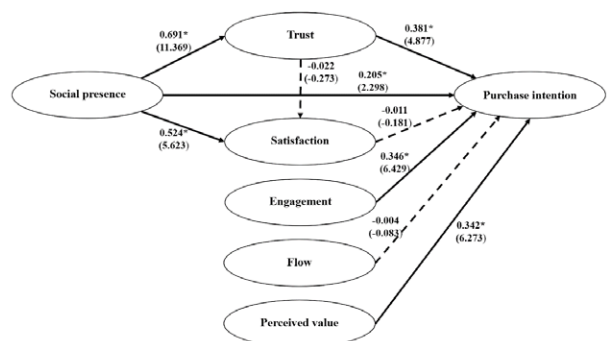**Note:** *Significant at p-value, p<0.05.

Figure 2 The Results of Structural Model
Note: Solid line reports the Standardized Coefficient with * as p<0.05, and t-value in Parentheses; Dash line reports Not Significant

Discussion

The research conceptual framework was developed from previous studies related to social platform and social commerce. The key objective of this study was to examine factors impacting social commerce users' trust, satisfaction and purchasing intention from social live stream commerce by influencers. The research has examined the relationship among seven factors, which are social presence, trust, satisfaction, engagement, flow, perceived value, and purchase intention. A total of nine hypotheses were tested by a quantitative method. The questionnaire was adapted from previous research, tested its validity and reliability with IOC and pilot test before collecting data from 480 targeted respondents. The target respondents for this study were Thais aged above 18 and had experience in purchasing from Facebook live streams conducted by influencers with over 10,000 followers. The data obtained from this empirical study was analyzed by applying Confirmatory Factor Analysis (CFA) and the Structural Equation Model (SEM). The results found that six of nine hypotheses were supported.

According to S-O-R framework, social presence can stimulate two organism factors of trust and satisfaction in live stream commerce. However, the suggested relationship between trust and satisfaction was found insignificant. Relationship between trust and purchase intention was found significant. This means that the path of social presence (stimulus), trust (organism), and purchase intention (response) was confirmed with similar results from Zhu et al. (2020). In contrast, the path of social presence (stimulus), satisfaction (organism), and purchase intention (response) was not supported due to an insignificant result of satisfaction on purchase intention. Other factors which directly impacted purchase intention in live stream commerce were social presence, engagement, and perceived value. Especially engagement which was the most substantial factor to construct purchase intention of live stream users followed by perceived value. These findings supported the theories of Uses and Gratification Theory (Katz & Blumler, 1974) and Value based Adoption Model (Monroe & Krishnan, 1985). However, flow theory was not supported in this research context. Flow during the live stream was found to be insignificant toward purchase intention in live stream commerce. This may be due to the nature of live streaming that is similar to other mass media and streaming such as video streaming and TV programs where users view the programs for satisfaction and entertainment only. Users can still be interacting with other activities simultaneously and not completely concentratinf on the flow state of live stream commerce to generate purchase intention.

Based on the six supported hypotheses, trust has the strongest impact on live stream users' purchase intention, followed by engagement, perceived value, and social presence. Trust has proven to be a vital factor in online purchase context, consistent with previous studies such as Farivar et al. (2017), Li et al. (2017), Al-Adwan and Kokash (2019). There are risk and uncertainty that sellers may behave in harmful or unpredictable ways. Trust gained from reliability and credibility of sellers, products, and social community can help reduce uncertainty and perceived risk (Zhu et al., 2020). Engaged users can also effectively build emotional bond between users and live streamers or social influencers, supported by the studies of Toor et al. (2017) and Hsu (2017). The users' connection to the product, brand, or social influencers can ultimately lead to purchase intention as they would be willing to support. Another important driver of purchase intention is perceived value. Social live streaming would allow sellers or influencers to demonstrate product information to support users' decision making. This product information would enable users to weigh the cost and benefits. With sufficient information and the values as perceived, consumers may increase their purchase intention. The result was consistent with past studies of Chen et al. (2018) and Permatasari and Kuswadi (2017). Lastly, social presence contributed to purchase intention directly and indirectly through trust. Gefen and Straub (2004) has argued that social presence can increase purchase intentions in online platforms as it elevates honesty, predictability, capability, and generosity of the users.

Suggestion

This research has investigated and revealed significant factors impacting users' attitudes of trust, satisfaction, and behavioral intention to purchase product or service from social influencers' live streams on Facebook in Thailand. The finding of this study can offer suggestions to influencers, e-vendors, marketers, as well as live streaming platform developers.

Marketers, influencers, and e-vendors can adapt findings from this study to improve their live stream commerce experience and business performance. Users' purchase intention via live stream is actions and behaviors of buying decision making, increasing interest to buy, preferring to buy, and intending to continue

purchase. This study has identified that purchase intention during live streaming in Thailand can be influenced by trust, engagement, perceived value, and social presence, respectively. Trust on social influencers and confidence to purchase need to be constructed if the aim is to enhance users' purchasing intention. Trust is vital in online setting in order to reduce users' perceived risk and uncertainty in purchasing. Marketers, influencers, and e-vendors should ensure that users can rely on the information, demonstration and reviews received from the product and services to earn trust from influencers or e-vendors, community, and products. For example, portray the skills and expertise in the field of product or service for credibility. Users' engagement with live streamers can be found in different actions such as following, commenting, reacting with likes, and frequent visiting pages of live streamers. The more engagement behaviors presented, the higher purchase intentions were constructed. Therefore, the marketers, influencers, and e-vendors can encourage participation activities to gain user engagement such as recognize their engagement during live stream or give discounts and promotions for following, commenting, or reacting. Live stream users perceive the value of live stream commerce by evaluating benefits and value of time or money they spend during the live stream experience. This perception is found to be directly impacting their purchase intention. Therefore, the product presentation during live stream should ensure that the benefits and actual usage of product are accurately and completely demonstrated to support decision making. Lastly, social presence should be established from the sense of human contact and personality of live streamers. Influencers or live streamers should present their warmth, friendliness, positive attitudes, and enthusiasm in having real-time interaction with the audiences. As the impact of social presence was found on trust, satisfaction, as well as purchase intention, marketers, influencers, and e-vendors should pay deep attention in constructing their social presence with users during live stream commerce.

For live streaming platform developers, engagement that significantly impact users' purchase intention can also be driven from the features of social platform. The live streaming platform developers should make effort to ensure that the visual and operations of the platform or application are simple and easy for user to be engaged and socialized within the community. For example, users should be able to comment, read comments and react easily without disrupting the live stream. The continuous improvement in live stream features can help enhance user experience, engagement and interactions between live streamers and users.

In addition, further studies were suggested as this study contained research limitations. First, the research framework and its variables was adopted from previous studies which were mainly grounded from S-O-R framework, UGT, and VAM theories. Thus, the researcher recommends further exploration of literatures in order to apply different research theories to the social commerce study as it may derive with different significant impacting factors or antecedents of users' purchasing behavior. Second, the population for study can be chosen differently, or widen to other social commerce platforms to ensure the findings can represent purchasing behaviors of all Thais. Further studies may also compare the results of users' purchasing behavior between various social commerce platforms or explore more alternatives platforms and applications. Finally, due to resource constraints, this research only focused on Thai live stream users and buyers. Therefore, a suggestion would be to further investigate in different locations or settings as acceptance and attitude toward live streaming commerce can vary with different audiences.

Reference

Al-Adwan, A.S., & Kokash, H. (2019). The driving forces of Facebook social commerce. *Journal of Theoretical and Applied Electronic Commerce Research, 14*(2), 15-32.

Animesh, A., Pinsonneault, A., Yang, S. B., & Oh, W. (2011). An odyssey into virtual worlds: Exploring the impacts of technological and spatial environments on intention to purchase virtual products. *Management Information Systems Quarterly, 35*(3), 789-810.

Attar, R.W., Amidi, A., & Hajli, N. (2022). The role of social presence and trust on customer loyalty. *British Food Journal.* Advance online publication. https://doi.org/10.1108/BFJ-11-2021-1218

Attar, R.W., Shanmugam, M., & Hajli, N. (2021). Investigating the antecedents of e-commerce satisfaction in social commerce context. *British Food Journal, 123*(3), 849-868.

Beyari, H., & Abareshi, A. (2018). Consumer satisfaction in social commerce: An exploration of its antecedents and consequences. *The Journal of developing areas, 52*(2), 55-72.

Bittner, J.V. & Shipper, J. (2014). Motivational effects and age differences of gamification in product advertising. *Journal of Consumer Marketing, 31*(5), 391-400. https://doi.org/10.1108/JCM-04-2014-0945

Brodie, R.J., Hollebeek, L.D., Jurić, B., & Ilić, A. (2011). Customer engagement: Conceptual domain, fundamental propositions, and implications for research. *Journal of Service Research, 14*(3), 252–271. https://doi.org/10.1177/1094670511411703

Carlson, K.D., & Herdman, A.O. (2012). Understanding the impact of convergent validity on research results. *Organizational Research Methods, 15*(1), 17-32.

Chang, S.-H., Chih, W.-H., Liou, D.-K., & Yang, Y.-T. (2016). The mediation of cognitive attitude for online shopping. *Information Technology & People, 29*(3), 618-646. https://doi.org/10.1108/ITP-08-2014-0172

Chang, Y.W., Hsu, P.Y., & Yang, Q.M. (2018). Integration of online and offline channels: A view of O2O commerce. *Internet Research, 28*(4), 926-945. https://doi.org/10.1108/IntR-01-2017-0023

Chen, C.C., & Chang, Y.C. (2018). What drives purchase intention on Airbnb? Perspectives of consumer reviews, information quality, and media richness. *Telematics and Informatics, 35*(5), 1512-1523.

Chen, C.C., & Lin, Y.C. (2018). What drives live-stream usage intention? The perspectives of flow, entertainment, social interaction, and endorsement. *Telematics and Informatics, 35*(1), 293-303.

Chen, C.C., Hsiao, K.L., & Wu, S.J. (2018). Purchase intention in social commerce: An empirical examination of perceived value and social awareness. *Library Hi Tech, 36*(4), 583-604. https://doi.org/10.1108/LHT-01-2018-0007

Chen, C.F., & Tsai, D.C. (2007). How destination image and evaluative factors affect behavioral intentions? *Tourism Management, 28*(4), 1115-1122. https://doi.org/10.1016/j.tourman.2006.07.007

Chen, H. (2012). The influence of perceived value and trust on online buying intention. *Journal of Computational Physics, 7*(7), 1655-1662.

Chong, A.Y.L., Lacka, E., Li, B. & Chan, H.K., (2018). The role of social media in enhancing guanxi and perceived effectiveness of E-commerce institutional mechanisms in online marketplace. *Information and Management, 55*(5), 621-632.

Chou, S., Chen, C., & Lin, J. (2015). Female online shoppers. *Internet Research, 25*(4), 542-561.

Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297-334.

Dodds, W.B., Monroe, K.B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research, 28*(3), 307-319.

Erdogmus, I., & Tatar, S. (2015). Drivers of social commerce through brand engagement. *Procedia-Social and Behavioral Sciences, 207,* 189-195.

Fan, J., Zhou, W., Yang, X., Li, B., & Xiang, Y. (2019). Impact of social support and presence on swift guanxi and trust in social commerce. *Industrial Management & Data Systems, 119*(9), 2033-2054. https://doi.org/10.1108/IMDS-05-2019-0293

Farivar, S., Turel, O., & Yuan, Y. (2017). A trust-risk perspective on social commerce use: An examination of the biasing role of habit. *Internet Research, 27*(3), 586-607. https://doi.org/10.1108/IntR-06-2016-0175

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50.

Foroudi, P., Cuomo, M.T., & Foroudi, M.M. (2019). Continuance interaction intention in retailing: Relations between customer values, satisfaction, loyalty, and identification. *Information Technology & People, 33*(4), 1303-1326. https://doi.org/10.1108/ITP-09-2018-0421

Gan, C., & Wang, W. (2017). The influence of perceived value on purchase intention in social commerce context. *Internet Research, 27*(4), 772-785. https://doi.org/10.1108/IntR-06-2016-0164

Gao, L., & Bai, X. (2014). Online consumer behaviour and its relationship to website atmospheric induced flow: Insights into online travel agencies in China. *Journal of Retailing and Consumer Services, 21*(4), 653-665.

Gefen, D., & Straub, D. W. (2004). Consumer trust in B2C e-Commerce and the importance of social presence: experiments in e-Products and e-Services. *Omega, 32*(6), 407-424.

Geng, R., Wang, S., Chen, X., Song, D., & Yu, J. (2020). Content marketing in e-commerce platforms in the internet celebrity economy. *Industrial Management & Data Systems, 120*(3), 464-485.

George, D., & Mallery, P. (2010). *SPSS for Windows step by step. A simple study guide and reference.* Boston: Pearson Education.

Gupta, S., & Kim, H.W. (2010). Value-driven Internet shopping: The mental accounting theory perspective. *Psychology and Marketing, 27*(1), 13-35.

Hajli, N., Sims, J., Zadeh, A.H., & Richard, M.O. (2017). A social commerce investigation of the role of trust in a social networking site on purchase intentions. *Journal of Business Research, 71,* 133-141.

Hollebeek, L. D., Glynn, M.S., & Brodie, R.J. (2014). Consumer brand engagement in social media: Conceptualization, scale development and validation. *Journal of Interactive Marketing, 28*(2), 149-165.

Hsu, C.L. & Lin, J.C.-C. (2021). The effects of gratifications, flow and satisfaction on the usage of livestreaming services. Library Hi Tech. Advance online publication. https://doi.org/10.1108/LHT-02-2021-0069

Hsu, L.-C. (2017). Investigating community members' purchase intention on Facebook fan page: From a dualistic perspective of trust relationships. *Industrial Management & Data Systems, 117*(5), 766-800. https://doi.org/10.1108/IMDS-05-2016-0180

Huang, E. (2012). Online experiences and virtual goods purchase intention. *Internet Research, 22*(3), 252-274. https://doi.org/10.1108/10662241211235644

I-dac Bangkok. (2021, Dec 8). The age of influence: How influencer marketing is evolving in Thailand. Retrieved from https://www.warc.com/newsandopinion/opinion/the-age-of-influence-how-influencer-marketing-is-evolving-in-thailand/5528

Kabadayi, S., & Gupta, R. (2011). Managing motives and design to influence web site revisits. *Journal of Research in Interactive Marketing, 5*(2/3), 153-169. https://doi.org/10.1108/17505931111187785

Katz, E., & Blumler, J. (1974). *The uses of mass communications: Current perspectives on gratifications research.* Beverly Hills, CA: Sage Publications.

Khan, M.L. (2016). Social media engagement: What motivates user participation and consumption on YouTube? *Computers in Human Behavior, 66,* 236-247. https://doi.org/10.1016/j.chb.2016.09.024

Lee, C.-H. & Wu, J.J. (2017). Consumer online flow experience: The relationship between utilitarian and hedonic value, satisfaction and unplanned purchase. *Industrial Management & Data Systems, 117*(10), 2452-2467. https://doi.org/10.1108/IMDS-11-2016-0500

Leesa-nguansuk S. (2021, March 11). Line touts social commerce. Retrieved from https://www.bangkokpost.com/tech/2081651/line-touts-social-commerce

Li, L., Peng, M., Jiang, N., & Law, R. (2017). An empirical study on the influence of economy hotel website quality on online booking intentions. *International Journal of Hospitality Management, 63,* 1-10.

Lin, X., Wang, X., & Hajli, N. (2019). Building e-commerce satisfaction and boosting sales: The role of social commerce trust and its antecedents. *International Journal of Electronic Commerce, 23*(3), 328-363.

Lou, C., & Yuan, S. (2018). Influencer marketing: How message value and credibility affect consumer trust of branded content on social media. *Journal of Interactive Advertising, 19*(1), 1-45.

Mao, Y., Zhu, J.X., & Sang, Y. (2014). Consumer purchase intention research based on social media marketing. *International Journal of Business and Social Science, 5*(10), 92-97.

McKinsey. (2021, July 21) It's showtime! How live commerce is transforming the shopping experience. Retrieved from https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/its-showtime-how-live-commerce-is-transforming-the-shopping-experience

McLean, G., Osei-Frimpong, K., Wilson, A., & Pitardi, V. (2020). How live char assistants drive travel consumers' attitudes, trust, and purchase intentions: The role of human touch. *International Journal of Contemporary Hospitality Management, 32*(5), 1795-1812.

Mehrabian, A., & Russell, J.A. (1974). *An approach to environmental psychology.* Cambridge, MA: The MIT Press.

Ming, J., Jianqiu, Z., Bilal, M., Akram, U., & Fan, M. (2021). How social presence influences impulse buying behavior in live streaming commerce? *The role of SOR theory. International Journal of Web Information Systems, 17*(4), 300-320. https://doi.org/10.1108/IJWIS-02-2021-0012

Mirkovski, K., Jia, Y., Liu, L., & Chen, K. (2018). Understanding microblogging continuance intention. *Information Technology & People, 31*(1), 215-238. https://doi.org/10.1108/ITP-07-2015-0168

Monroe, K.B., & Krishnan, R. (1985). The effect of price on subjective product evaluations. In J. Jacoby & J.C. Olson, (Eds.), *Perceived quality: How consumers view stores and merchandise* (pp. 209-232). Lexington, MA: Lexington Books.

Mustafi, M.A.A., & Hosain, M.S. (2020). The role of online advertising on purchase intention of smartphones: Mediating effects of flow experience and advertising value. *Journal of Contemporary Marketing Science, 3*(3), 385-410. https://doi.org/10.1108/JCMARS-05-2020-0024

Nisar, T., & Prabhakar, G. (2017). What factors determine e-satisfaction and consumer spending in e-commerce retailing? *Journal of Retailing and Consumer Services, 39,* 135-144.

Novak, T.P., Hoffman, D.L., & Yung, Y.F. (2000). Measuring the customer experience in online environments: A structural modeling approach. *Marketing Science, 19*(1), 22-42.

Pappas, I.O., Pateli, A.G., Giannakos, M.N., & Chrissikopoulos, V. (2014), Moderating effects of online shopping experience on customer satisfaction and repurchase intentions. *International Journal of Retail & Distribution Management, 42*(3), 187-204. https://doi.org/10.1108/IJRDM-03-2012-0034

Permatasari, A., & Kuswadi, E. (2017). The impact of social media on consumers' purchase intention: A study of ecommerce sites in Jakarta, Indonesia. *Review of Integrative Business and Economics Research, 6,* 321-335.

Pratama, M. O., Meiyanti, R., Noprisson, H., Ramadhan, A., & Hidayanto, A. N. (2017). *Influencing factors of consumer purchase intention based on social commerce paradigm.* Paper presented at the International Conference on Advanced Computer Science and Information Systems (ICACSIS), Bali, Indonesia. Retrieved from https://doi.org/73-80.10.1109/ICACSIS.2017.8355015

Rahman, Z., Moghavvemmi, S., Suberamanaian, K., Zanuddin, H., & Bin Md Nasir, H.N. (2018). Mediating impact of fan-page engagement on social media connectedness and followers purchase intention. *Online Information Review, 42*(7), 1082-1105. https://doi.org/10.1108/OIR-05-2017-0150

Ramadila N. (2021, May 21). Social commerce usage in Thailand during COVID. Retrieved from https://business.yougov.com/content/36058-TH-Social-Commerce

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online, 8*(2), 23-74.

Shirazi, F., Adam, N.A., Shanmugam, M., & Schultz, C. D. (2020). The importance of trust for electronic commerce satisfaction: An entrepreneurial perspective. *British Food Journal, 123*(2), 789-802. https://doi.org/10.1108/BFJ-07-2020-0626

Sikdar, P., & Makkad, M. (2015). Online banking adoption: A factor validation and satisfaction causation study in the context of Indian banking customer. International *Journal of Bank Marketing, 33*(6), 760-785. https://doi.org/10.1108/IJBM-11-2014-0161

Smith, D.N., & Sivakumar, K. (2004). Flow and Internet shopping behavior: A conceptual model and research propositions. *Journal of Business Research, 57*(10), 1199-1208.

Soper, D.S. (2021). A-priori sample size calculator for structural equation models. Retrieved from https://www.danielsoper.com/statcalc/calculator.aspx?id=89

Studenmund, A.H. (1992). *Using econometrics: A practical guide.* New York: Harper Collins.

Sun, Y., Shao, X., Li, X., Guo, Y., & Nie, K. (2019). How live streaming influences purchase intentions in social commerce: An IT affordance perspective. *Electronic Commerce Research and Applications, 37,* 100886. https://doi.org/10.1016/j.elerap.2019.100886

Toor, A., Husnain, M., & Hussain, T. (2017). The impact of social network marketing on consumer purchase intention in Pakistan: Consumer engagement as a mediator. *Asian Journal of Business and Accounting, 10*(1), 167-199.

Wang, P., Huang, Q., & Davison, R. M. (2020). How do digital influencers affect social commerce intention? The roles of social power and satisfaction. *Information Technology & People, 34*(3), 1065-1086.

Wang, Y., Ko, E., & Wang, H. (2022). Augmented reality (AR) app use in the beauty product industry and consumer purchase intention. *Asia Pacific Journal of Marketing and Logistics, 34*(1), 110-131. https://doi.org/10.1108/APJML-11-2019-06844

Weisberg, J., Te'eni, D., & Arman, L. (2011). Past purchase and intention to purchase in e-commerce: The mediation of social presence and trust. *Internet Research, 21*(1), 82-96. https://doi.org/10.1108/10662241111104893

Wongkitrungrueng, A., & Assarut, N. (2020). The role of live streaming in building consumer trust and engagement with social commerce sellers. *Journal of Business Research, 117,* 543-556.

Wu, J., & Chang, Y. (2005). Towards understanding members' interactivity, trust, and flow in online travel community. *Industrial Management & Data Systems, 105*(7), 937-954. https://doi.org/10.1108/02635570510616120

Yang, X. (2020). Influence of informational factors on purchase intention in social recommender systems. *Online Information Review, 44*(2), 417-431. https://doi.org/10.1108/OIR-12-2016-0360

Yu, F., & Zheng, R. (2021). The effects of perceived luxury value on customer engagement and purchase intention in live streaming shopping. *Asia Pacific Journal of Marketing and Logistics. Advance online publication.* https://doi.org/10.1108/APJML-08-2021-0564

Zhu, L., Li, H., Wang, F.K., He, W., & Tian, Z. (2020). How online reviews affect purchase intention: A new model based on the stimulus-organism-response (S-O-R) framework. *Aslib Journal of Information Management, 72*(4), 463-488. https://doi.org/10.1108/AJIM-11-2019-0308

Ziadkhani, G.S., & Palmet, M. (2019). *Driving online brand engagement, trust, and purchase intention on instagram: The effect of social commerce marketing stimuli* (Master dissertation). Mälardalen University, Sweden.