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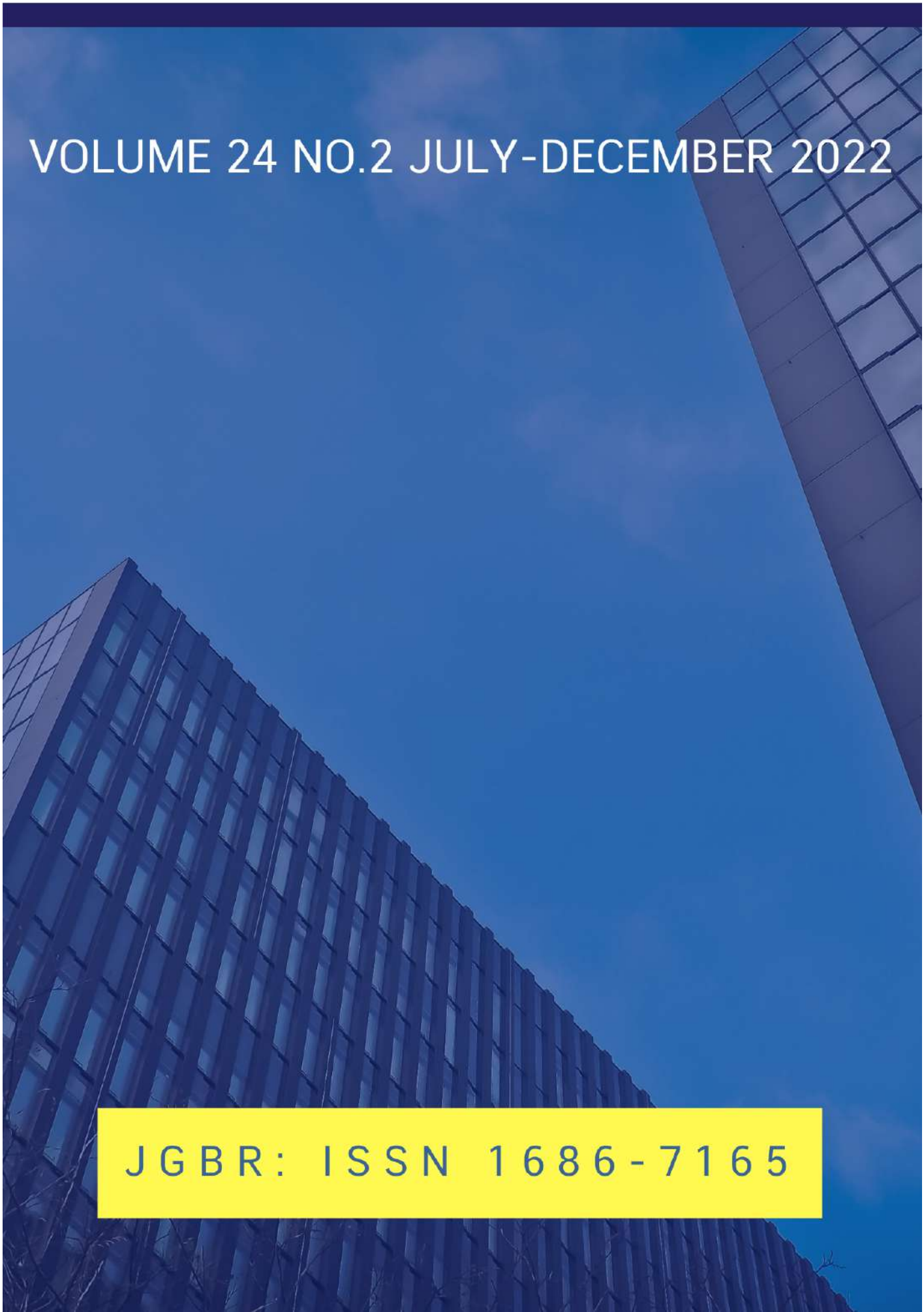

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Exploratory of Tourists' Expectation on Airport Service Quality: Classification and Regression Tree Approach

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ABSTRACT

Currently, The major GDP of Thailand relies on tourism. Thus, the tourist has played essential roles in the economic deployment of Thailand. Air transportation almost selected for travellers in both foreign and domestic. The airports are the first impression for the tourists. An expectation of tourism is importance that is significant to the perceived a service quality of the airport. Because the airport is the first facility before going to the travelling places, this study aims to understand the tourists' expectations for airport service quality related to the passengers' satisfaction. We reviewed the service indicators from the previous studies of airport service quality. This study also tries to understand the relationship among the indicators. Thus, We used a classification and regression tree (CART) to analyze the data collection. The data was interviewed in the airport nationwide by the questionnaire of airport service indicators. The total data is 490 passengers who have travelling objective. We found the initial result that 68.6% is not satisfied with the airport service, who have the average of expectation gather than perception. According to the CART result, We found that the most critical indicator is an available parking space, the baggage carts, walking distance and internet access/Wi-Fi, respectively. This research can guide strategic management for airport efficiency improvements to support the tourists, especially when the Thai Government could handle the spread of COVID-19, many tourists would come.

Keywords: Thai Airport, Satisfaction, Decision Tree, Variables Importance, Strategic Management, Tourists.

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Introduction

Tourism in Thailand

A tourism in Thailand plays important role. Thus, The government organization must consistently improve any service for supporting either foreign and domestic tourists, efficiency. A study by Rouenthip and Laosumrit (2020) mentioned that income from tourism is a significant economy of Thailand. In 2019, the proportion was 16% of GDP. While the income from the foreign tourists was 10% of GDP and the total of tourism was 61% of Thai GDP. In 2020, foreign tourists cannot travel to Thailand because of the spread of COVID-19. This situation can be evaluated the tourists reduced to 80% or 8.1 million tourists. The recovering a tourism of Thailand has various ways. SCB Economic Intelligence Center (2020) has mentioned the example of creating confidence by the efficient safety policies of COVID-19. A subsidizing of travelling costs features such as the air ticket, makes the high price for travelling, and a reduction of the complexity of screening the passengers.

Regarding a transportation mode for tourism in Thailand, for inland transportation of domestic tourism, road transportation is almost used. However, for foreign tourists or across the region, air transportation is practically selected, because the air is a little the travel time and safer than the road transportation mode (Pothiphun and Ajnarong, 2018).

Role of Airport

Based on the previous section, we found that the service air transportation is essential to support the tourists. Which directly affect Thai economy and the country development as well (Rouenthip and Laosumrit, 2020). Thus, a government must emphasize the improvement of the service quality of the air industry. In addition, increasing the confidence of tourism can induces the number of tourists. That is a part of an economic stimulus. According to the air transportation has too many ways to improve the efficiency, such as the service qualities improvement of the airline (Chonsalasin et al., 2020a), the service qualities of the airport (Bezerra and Gomes, 2015; Allen et al., 2020b; Allen et al., 2020a; Chonsalasin et al., 2020b; Pandey, 2020). However, Pandey (2016) have mentioned that the airport is most important for tourists, because this infrastructure is bottleneck often which compromises the perceived service values.

Tourists' Expectation

Many guidance developments of the airport have been studied. Almost, they considered the users' perception, for example, the SERVQUAL model is used worldwide. However, an actual expectation of tourists is the passengers' expectation because it is a though before the service perception. Service quality expectations. In their definition of service quality as the consumer's judgment about an entity's excellence or superiority, Dean (2004) stated that customers evaluate quality by comparing their expectations (or ideals) with their perceptions of the service performance. Thus, an understanding of users' expectation cloud interprets as good guidance for increasing airport service quality. Ratanavaraha and Jomnonkwao (2014); Pandey (2016) have confirmed that the users' expectation impacts the perception of service quality.

Research Objective

The research aims to understand the relationship among the expectation of service quality in various dimensions such as the check-in point, arrival service, and airport environment, which related to tourists' overall satisfaction. The classification and Regression Tree (CART) is a method of this research.

Since, the CART can analyze the relationship between a target factor (airport service satisfaction) and the service quality indicators. Moreover, CART can demonstrate the relationship among indicator of airport service quality. The contribution of this study is finding ways to increasing the proportion of satisfied passengers. It could be a part of the strategic management of the airport.

Previous Research

Relationship Satisfaction and Expectation

Champahom et al. (2019a) concluded that satisfaction of service quality is users' comparing between their expectation and perception. If a user feels receiving service perception more than their service expectation, that user would satisfy that service quality. A study of public transportation by Chen et al. (2015) studied the impact of the innovation on the airport service quality for customer satisfaction and customer value enhancement. The result found that innovation development such as a self-check-in kiosk, X-ray, social media communication, and micro-hotels in an airport can significantly increase customer satisfaction. Chonsalasin et al. (2020b) studied the confirmatory factor analysis of airport service quality indicators. The result found that element of hands including Accessibility, Safety, Check-in facility, Wayfinding, Airport environment and Arrival Services.

Indicator of Airport Service Quality

According to the service quality indicator of the airport, there are various studies. For example, Tsai et al. (2011) studied a gap analysis. The multiple criteria decision analysis analyzed the data. The indicators consist of 2 primary groups, 1) Physical environment, including the airport facilities planning (e.g. sanitary condition of lavatory environment beauty and cleanliness, facilities allocation and space design) and the airport circulation planning (e.g. the internal direction line arrangement, exterior surrounding circulation planning, convenience of public transportation), 2) An interaction and outcome including, the procedural service (e.g. airport receptionist's attitude, security inspection procedure and check-in and baggage delivery service) and flight information service (e.g. an On-time departure of flights, clarity of broadcasting system and the accuracy of flight information board). The points of service separated the indicators. It was studied by Thampan et al. (2020), which including the total service time, the waiting time, space available per passenger (Crowding), a visibility Index, an orientation, total walking distance, and availability of seats, the walking speed and the number of carousels. The check-in point has accounted for a part of the service that important to the airport. A check-in point must give service to all of the passengers. The study of Taufik and Hanafiah (2019) focused on the service quality of check-in point. They collected the data by questionnaires. The confirmatory factor analysis was conducted to analyze the data set. The results found that there are three components indicated for the service quality of the check-in point. It includes Perceived Ease of Use (e.g., I would find it easy to get the information I need from the self-check-in kiosk). Perceived usefulness (e.g., The self-check-in booth enhances my effectiveness in completing the check-in process) Need for Human Interaction (e.g., I like interacting with a real person that provides the service). These indicators were confirmed, which statistical significantly related to a

comeback intention for the airports, regarding the studies the service quality of airport in Thailand, which is Donmuang airport (DMK). The indicators including Well-groomed boarding gate staff, Check-in staff appropriately attired, Check-in staff had equipment available to provide check-in service, Boarding gate staff checked documents with flights correctly, and the baggage service staff appropriately dressed (Pandey, 2016). In addition, many studies relating the service indicators of the airport around the world, Janic (2003); de Barros et al. (2007); Liou et al. (2011); Lubbe et al. (2011); Pabedinskaitė and Akstinaitė (2014); Bezerra and Gomes (2016); Pandey (2016); Pantouvakis and Renzi (2016); Lee and Yu (2018); Martin-Domingo et al. (2019); Barakat et al. (2021).

Method

Data collection and Sample size

The population of this study are passengers who used an airport service or called air passengers (exclude the relative who came to drop or wait to pick the air passengers). This paper target only the air passenger who has tourist objective. The statistics of air passenger of Thailand in 2019, the domestic were 76,253,599 passengers and International were 88,822,412 passengers (Total = 165,076,011 passengers) (The Civil Aviation Auhority of Thailand, 2020). This study's sample size is considered by the applied method, which is the classification and Regression Tree Model (CART). There are many 'rules of thumb' about the proper sample size. The typical rule is to have at least 10–15 participants per observed variable (Field, 2009). Nevertheless, Comrey and Lee (1992) defined the following ranges: 100 as poor, 200 as fair, 300 as good, 500 as very good, and 1000 or more excellent (Hernandez and Monzon, 2016; Hernandez et al., 2016).

The data collection of this study was 490 respondents. The collected data was in the airports in Thailand. A cluster sampling is used by considering the number of passengers each year proportionated the number of respondents in each airport. The interview was conducted by a questionnaire then answer by the respondents. The period time for the data collection was March 2019 – May 2019.

Questionnaire design

A quarantine component included two parts, 1) the question of sample characteristics such as Gender, Passenger's age, Educations, Occupation, Revenue, Frequency and Delay Experience. 2) the expectations of airport service qualities, the list of indicators was conducted by a literature review (see in section 2). Which consist of 7 groups including, Access, Check-in Time, Security, Finding your way, Facilities, Environment and Arrival Services (Chonsalasin et al., 2020b; Barakat et al., 2021). A 7-point Likert-type scale measures the total service quality indicators (1 = strongly disagree; 7 = strongly agree). Ethics Committee approved this research for Researches Involving Human Subjects, Suranaree University of Technology (COA.30/2562).

According to the sample, characteristics was shown in Table 1. The satisfied passenger and unsatisfied passenger separated it. Overall, almost all passengers are unsatisfied 68.6%. For the gender, it was found that the females more than the males. Nearly all education level is bachelor's degree. Regarding the reliability of the item of passengers' expectation, It can

be measure by a Cronbach's Alpha (Champahom et al., 2020; Chonsalasin et al., 2020a). The Cronbach's Alpha of this data is 0.978, which could be accepted to be a good questionnaire criterion.

Classification and Regression Tree

The decision tree model (DT) consists of three components. These are decision node, branches, and leaf nodes. Each decision node displays the variable, and each branch displays one variable value based on decision rules, while leaf nodes exhibit the expected values of target variables (Champahom et al., 2019b). The advantage of a DT is showing the relationship among the exploratory indicator (which in this study is the service quality of the airport) (Chou, 1991). In addition, the strength of DT is an analysis of either Continuous and discrete data. The regression tree method constructed continuous data (Lee et al., 2007) and classification tree (Berry and Linoff, 2000). The classification and regression tree (CART) cloud analyze either Non-parametric and non-predefine (Hernandez et al., 2016). CART is a part of the data-mining method (data-mining is a part of machine learning). It was developed by Breiman et al. (1984). the previous researchers analyzed the dataset by using CART. For example, Barlin et al. (2013); Hwang et al. (2013) analysis in the subject of medical or energy (Mikučionienė et al., 2014). An application for the transportation engineering studies such as the transportation mode decision (Koo et al., 2014). The relationship between contribution factors affecting the crash severity from the road crash (Chang and Wang, 2006; Pakgohar et al., 2011). An analysis of important factor affecting the transportation service (de Oña et al., 2012). And a study used the CART to identify the importance of variable ranking service indicators (Importance-independent variable) (Hernandez et al., 2016).

Split rule and validation tree model

Classification and Regression Tree (CART) was used to analyze passengers' expectations for airports' service quality. A targeted variable (dependent variables) is passenger satisfaction (Champahom et al., 2019a), which indicated a customer is satisfied or not? This variable was suggested by the overall expectation and overall perception of the air service. Suppose the average perception is gathering than the expectation (Fakfare et al., 2021). The satisfied variable was defined as 0=not satisfied and 1= satisfied.

The DT model component included three parts consisting of a decision node, branches, and leaf nodes. Within the structure of DT, each decision node will demonstrate the variable. Its branch will show the value of variables created from the decision rules, and leaf nodes are the expected value of the target variables (Song and Lu, 2015).

Table 1 Sample Characteristics

		SATISFIED					
		NO			YES		
		Count	%	Mean	Count	%	Mean
GENDER	Male	156	46.43%		69	20.54%	
	Female	180	53.57%		85	25.30%	
AGE				31.47			30.38
EDUCATION	Primary School	9	2.68%		2	0.60%	
	Junior High School	13	3.87%		3	0.89%	
	High School	44	13.10%		22	6.55%	
	High Vocational	23	6.85%		16	4.76%	
	Bachelor degree	202	60.12%		93	27.68%	
	Master degree	33	9.82%		14	4.17%	
	Doctoral degree	12	3.57%		4	1.19%	
REVENUE				27,423.07			24,602.08
OCCUPATION	Government Officer	103	30.65%		57	16.96%	
	Private Sector	134	39.88%		49	14.58%	
	Private Business	32	9.52%		12	3.57%	
	agriculturist	4	1.19%		3	0.89%	
	Student	28	8.33%		17	5.06%	
	General Employee	24	7.14%		13	3.87%	
	Others	11	3.27%		3	0.89%	
FREQUENCY	1 week at a time	0	0.00%		0	0.00%	
	2 weeks at a time	7	2.08%		4	1.19%	
	1 month at a time	8	2.38%		2	0.60%	
	2-3 month at a time	33	9.82%		15	4.46%	
	4-6 month at a time	107	31.85%		36	10.71%	
	1 year at a time	179	53.27%		96	28.57%	
	others	2	0.60%		1	0.30%	
Delay Experience	Yes	161	47.92%		86	25.60%	
	No	175	52.08%		68	20.24%	

The Statistical Package for the Social Sciences (SPSS) was used to analyze the dataset. According to the analyses process of DT on SPSS, A starts by separating the whole dataset following by node. The node related to the proportion of the target variable, then the splitting will be begun to create few small subsets. For a splitting or in SPSS called “growing methods”, there are three types: CHAID, Classification and regression tree (named in SPSS is CRT) and QUEST. Each type is different working and also its advantages. This study used the CART (Champahom et al., 2019b). The reasons are, 1) CART can analyze binary node splitting, which is easy to understand (Chang and Wang, 2006) and 2) CART can set influence variables, referring to the research objective, it must analyze the relationship among the satisfaction of passenger. CART will show

each independent (predictor) pattern of ranks, relating to its importance to the model (IBM, 2012). Previous research used CART, for example, Pande et al. (2010); Kashani and Mohaymany (2011); Pakgohar et al. (2011). In addition, CART aims to find maximized within-node homogenous. The extent to which a node does not represent a homogenous subset of cases indicates impurity. (IBM, 2012).

For the CART model development, the algorithm of a splitting must be considered. A CART type in SPSS, there are two splitting rules, including Gini and Towing. The Gini splits frequently used. A working of Gini split is splits found that maximize the homogeneity of child nodes concerning the value of the dependent variable. Gini is base on squared probabilities of membership for each category of the dependent variable. The readers are suggested for the detail as Kashani and Mohaymany (2011); IBM (2012); Chang and Chien (2013).

Considering the accuracy of CART, it could use a unit misclassification costs, which mean accuracy rate for comparison between the observer data and the predicted by the model (Khan et al., 2015).

A validation defined an optimal tree model. Ten-fold cross-validation is several options to select the appropriate tree size. To avoid the overfitting of a model, We must set the limitations of a tree model. This study defines maximum tree Depth=5 nodes, the minimum cases in parent node=50 and minimum cases in child Node=25 (Champahom et al., 2019a).

Results and Discussion

Descriptive Statistics

Table 2 show the descriptive statistics of users' expectation for airport service qualities. Overall, the average score is 6.03 - 6.27, S.D. = 0.80 - 0.97. The high expectation may be from the convenience of high service quality from the airport such as cleanliness, the speed of progress, i.e., The highest service indicator is "Atmosphere or decoration of the airport" and "Checking Passport/ Identification Card at the Immigration Checkpoint". The lowest expectation is the value for money of Parking facilities. The rationale might seem that most passengers were dropped off or access the airport by public transportation (e.g., Taxi and Bus). Thus, available parking may not be necessary for the tourists.

Model Accuracy

Result of classification and regression tree (CART), dimension of the accuracy, it could be considered by two parts, 1) the risk of cross-validation is 0.273 (S.D.=0.02), this could be interpreted that the percentage of error = 27.3% (accuracy rate = 72.7%), 2) the classification to compare the observations and predictions the satisfaction of passenger. It shows that percentage correct = 75.7%. We could accept a high accuracy rate and interpretation for policy development next (Champahom et al., 2019b).

Table 2 Descriptive Statistics

Indicator	Description	Mean	S.D.
E1	land transportation has a variety of alternatives, both to and from the airport”	6.23	0.94
E2	Sufficient parking spaces	6.11	0.97
E3	Value for money of Parking facilities	6.00	0.97
E4	Availability of baggage carts/ trolley	6.14	0.91
E5	Courtesy and helpfulness of security staff	6.22	0.91
E6	Effectiveness of security inspection”	6.17	0.91
E7	Waiting time for Safety inspection	6.19	0.85
E8	Feeling of being safe and secure."	6.17	0.89
E9	Waiting time in the check-in line	6.23	0.89
E10	The efficiency of check-in staff	6.22	0.90
E11	Courtesy and helpfulness of check-in staff	6.22	0.83
E12	Waiting time at passport inspection	6.23	0.87
E13	Courtesy and helpfulness of inspection staff	6.24	0.89
E14	Sufficiency and quality of restaurants/ shops inside the airport	6.26	0.86
E15	Value for money of restaurant/ eating facilities	6.26	0.80
E16	Availability of ATM/ Bank/ Money changers	6.18	0.90
E17	Shopping facilities	6.19	0.85
E18	Value for money of shopping facilities	6.30	0.82
E19	Availability of Internet service (Wi-Fi)	6.25	0.85
E20	Availability of Business/ Executive Lounges	6.08	0.96
E21	Ease of finding directions at the airport	6.12	0.85
E22	Flight information screen	6.03	0.96
E23	Walking distance in the passenger terminal	6.06	0.95
E24	Ease of connecting other flights	6.14	0.93
E25	Courtesy and helpfulness of airport staff	6.23	0.87
E26	Availability and adequacy of restrooms	6.25	0.84
E27	Cleanliness of washrooms/ restrooms	6.24	0.87
E28	Comfort in the waiting area for passengers	6.20	0.87
E29	Cleanliness of airport terminal	6.20	0.90
E30	Atmosphere or decoration of the airport	6.27	0.87
E31	Checking Passport/ Identification Card at the Immigration Checkpoint	6.27	0.81
E32	Speed of Baggage delivery service	6.21	0.86
E33	Custom inspections	6.22	0.86

Important variables

Initially interpreted classification and regression tree model (CART) could be considered the importance of the variables, which demonstrate the relationship between the independent and dependent variables (Figure 1). This study are the airport service indicator and overall satisfaction of passengers in binary form. The 33 service indicators (Champahom et al., 2019a). The high relationship of indicators (maximize the homogeneity) is E19: Internet service

availability (Wi-Fi). It means that the service of internet access most affects the passenger satisfaction for the airport service. It might be explained that the current social media are always used, especially during the waiting. Many passengers may do not have the 3G or 4G to access the internet. The results consistent with Chang and Chien (2013) found that the Wi-Fi is a part of the airports that were most comments in the Google reviews. The following impotence variables follow, E2: Sufficient parking spaces and E20: Availability of Business/ Executive Lounges, respectively.

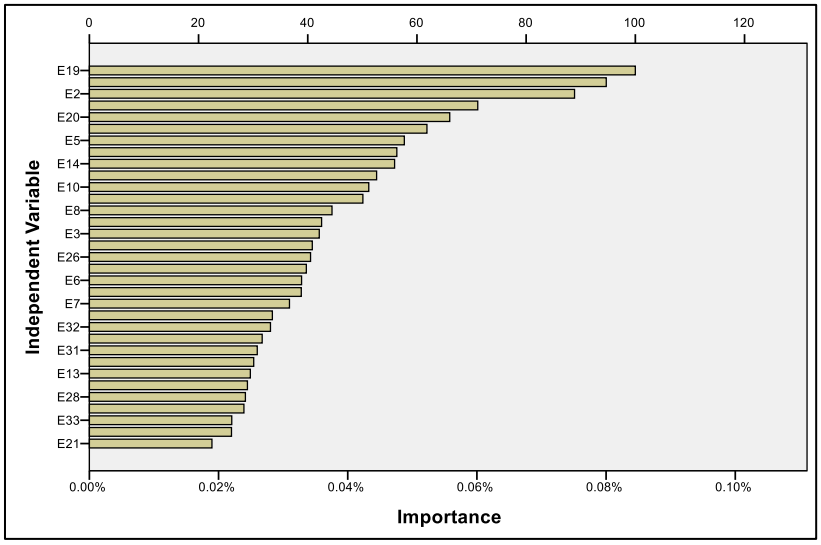

Figure 1 Normalized Importance Variables

Classification and Regression Tree Model

The result of the Classification and Regression Tree model (CART) was shown in Figure 2. When considering the passengers' satisfaction, we found that 68.8% is unsatisfied tourists (336 passengers). In contrast, 31.1% received service gather trans their expectation. The first homogenous variable for splitting the passenger satisfaction is E2 Sufficient parking spaces. If the tourists have expected more than 6.5, almost all will be unsatisfied (90.1%). While the expectation is less than 6.5, almost all passengers are also unsatisfied (53.3%). These parking space results can be explained that the parking relatively is not increased the passengers' satisfaction. In other words, these passengers who give high expectation are not satisfied. This result is consistent with Thampan et al. (2020), who reviewed for evaluating the overall service Qualities. We did not find that the parking service is the majority of airport service indicators.

The subsequent variable is in a group of 287 passengers who give expectation less and equal 6.5. That is E4 availability of baggage carts/ trolley. If the expectation of E4 less than 5.5, that passenger will be satisfied with the overall airport services (64%). While the expectation of E4 gather than 5.5, the main passengers are unsatisfied (62.6%). The service quality of the baggage carts cloud is demonstrated a little bit of the attitude of a passenger. We could account that the baggage carts service has an impact on the tourists' satisfaction. If they get a high perception about

baggage movement service, they will become satisfied passengers. The results are supported by the study of Lee and Yu (2018), who conclude that if the airport service has an availability of baggage carts is necessary, it should be progressed continuously for the convenience of the passengers.

Another variable that was clarified relating to the passenger's satisfaction is E23: Walking distance in the passenger terminal. If the tourist gives a high expectation for this indicator, they would be unsatisfied. This result is supported by Bezerra and Gomes (2016) found that walking distance is significantly statistical to be the indicator of airport services. The research about the expectation of walking distance is significant (Chonsalasin et al., 2020b).

Another node of E2 is expecting more than 6.5. The child node is the Availability of Internet service (Wi-Fi). This indicator rather crucial because the tourist has a high expectation or necessity about internet access. The CART result shows that if Wi-Fi's expectation more than 6.5 will be unsatisfactory for 96.2%. Likewise, the anticipation of Wi-Fi indicator less than 6.5, almost passenger also unsatisfied. Accounting to research found that comment on social media such as Twitter, the Wi-Fi is a word which most comment for the airport service (Barakat et al., 2021). The results consistent with Martin-Domingo et al. (2019) mentions that a sentiment Analysis technique can identify new insights beyond those provided by more traditional methods for an airport service quality. Pandey (2016) have found that the passengers have high expectation about facilities such as Internet access/Wi-Fi. The internet service in the airport should be kept up the good work.

Conclusions and Implementations

This study proposes to understand the airport service quality indicators in a dimension of passengers' expectation. We used the classification and regression tree (CART) to analyze the dataset. The CART has the advantage for indicating the relationship among the service indicators and ranking the homogenous of splitting the passengers' satisfaction. The questionnaires collected the data in the airports in Thailand. The contribution of this study is using for the guidance of airport efficiency and strategic management of development as well.

The results of the CART model found that the highest expectation is the service parking. However, these passengers are not satisfied with the airport service. It means that the main airports have enough parking space. There is no need to improve quickly because it did not increase the passengers' satisfaction.

The service indicator that should be developed including, 1) the availability of baggage carts/ trolley. It could be explanted that if the perception of the baggage cart's function has increased, this will make the passenger became to be cumulative passengers' satisfactions. Regarding a recommendation, the airport should observe or survey the demand of the carts, then evaluated adequacy. The airport should provide the baggage carts, aplenty. The airport administrators are suggested to check this indicator because it is easy and low budget to process. 2) the walking distances, the result show that this indicator cloud increases passenger satisfaction. Most tourists would take much baggage in each travelling.

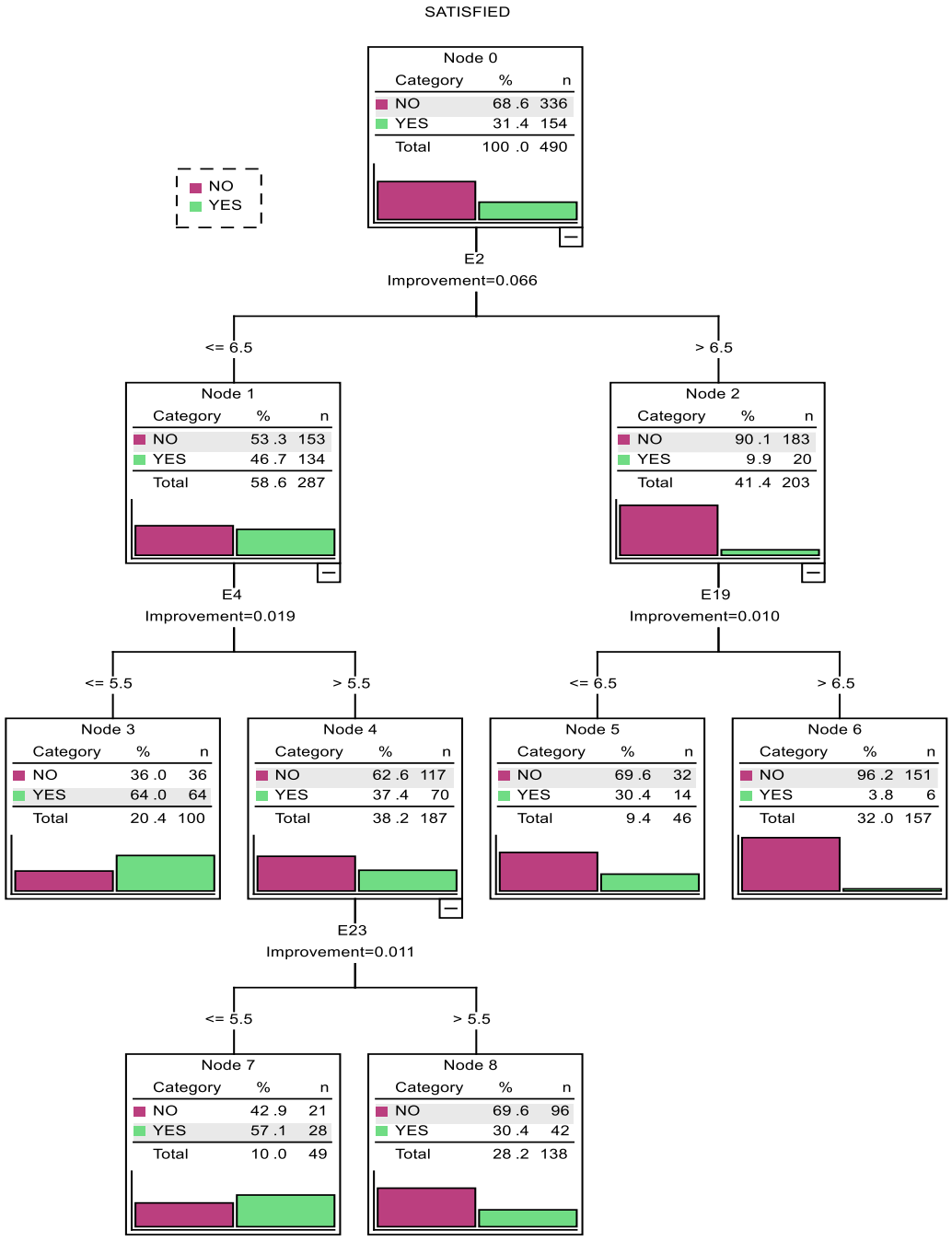

Figure 2 Classification and Regression Tree Results

Thus they did not like the long walking distance, such as between the check-in point to the gate. However, this improvement relatively is challenging to improve because this depends on the airport's layout. But The administrator should consider some method. For example, a proper mobility solution may help minimize the time and uncertainty for tourists when moving within the terminal and allow passengers to stay more relaxed at their interaction with the airport setting (Bezerra and Gomes, 2016). Another recommendation has a high chance to increase the proportion of satisfied passenger. It is the service of internet access or Wi-Fi. The result indicated that the airport should continuously improve the Wi-Fi, such as the available internet signal and the internet speed.

Recommendations for further study

The limitation of this study is data surveying before the COVID-19 spread, which has too much impact on the air industry. Thus, the questionnaire will lack some service indicators of the COVID-19 protection in the airport. However, when the Thai Government could handle the spread of COVID-19, then opening the country will be occurred, too many tourists will come. This paper could be helpful.

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DETERMINANTS INFLUENCING SUCCESS IN SALES PERFORMANCE OF MULTILEVEL MARKETING AGENTS IN THAILAND

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ABSTRACT

The purpose of this study is to investigate the determinants influencing success in sales performance of multilevel marketing agents in Thailand. The seven variables used in this research are customer orientation, adaptive selling, up-line support, perception on products/services, satisfaction, compensation, organizational commitment and sales performance. The population and sample size (n=1,000) were chosen to test two different groups of direct sales agent in the top ten companies which are 500 participants who are below bachelor's degree and 500 participants who are bachelor's degree and above. The quantitative method was applied for the data collection. Before collecting the data, Item-Objective Congruence (IOC) validity test and Cronbach's Alpha (CA) reliability test were employed. The multistage sampling technique was conducted by using purposive, quota and convenience sampling. After collecting the data, confirmatory factor analysis (CFA) was used to analyze factor loadings, convergent validity, discriminant validity and goodness of fit indices. Afterward, structural equation model (SEM) was carried out to test the hypotheses and relationships between variables. The findings revealed that adaptive selling has the strongest significant influence on sales performance in below bachelor's degree group followed by compensation on sales performance, customer orientation on adaptive selling and organizational commitment on sales performance. For the group of bachelor's degree and above, customer orientation had the strongest influence on adaptive selling, followed by organizational commitment on sales performance, perception on products/services on satisfaction and satisfaction on sales performance. For recommendations and implications, human resources practitioners and sales and marketing strategists are required to customize salespersons' development plan according to significant factors that enhance the sales performance in each group.

Keywords: Customer Orientation, Adaptive Selling, Up-Line Support, Perception on Products/Services, Satisfaction, Compensation, Organizational Commitment, Sales Performance.

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Introduction

Multilevel marketing (MLM) or network marketing has been widely known worldwide for many decades (Crittenden & Crittenden, 2004). MLM has been viewed as a successful business model since 1990s due to the cost is much lower in comparison with other kind of business models (Dyer, 2001). MLM's operations reduce the channels as the physical retail shops are not required (Lee & Loi, 2016). MLM is a lean business model which lessen the human resource expenses by appointing agents or distributors as salespersons. The advantage is that MLM does not require permanent employees with fixed salary, instead to have independent and flexible contractors who are paid as commission per sales contribution (Keep & Nat, 2014).

MLM is a concept of direct selling in which the products or services are sold by an agent or distributor to clients at their homes, offices, or other non-physical shops (Lee & Loi, 2016). The incentive schemes depend on individual sales' achievement (Brodie et al., 2004). The rewards are varied in accordance with each individual contribution to recruit other agents and then replicate their work to sell products and services (Keep & Nat, 2014).

MLM is attractive despite of the commission earning and worktime's flexibility. The sales performance is measured in a proportion of other agents or distributors' introduction and sales volume made (Crittenden & Crittenden, 2004). Commonly, the initial purchase volume is required to be a qualified agent of a MLM firm. MLM is an independent and self-employed job design for any individuals who have need for income obtained from selling products and services, and successful recruitment of other agents (Keep & Nat, 2014). The mechanism of network marketing is that an agent introduces another agent to join selling or buying products from a MLM company would make a recruiter to be an "Up-line" and a new member to be a "Down-line" (Lee et al., 2016). The sales performance is counted via products or services purchase volume and quantity of recruitments in each individual network. The incentives are paid according to individual and group volume within the network at the end of each month (Lee & Loi, 2016).

There are two statements of problem of direct selling businesses in Thailand. Firstly, personal-related issues are the problem of individual in selection to join the business. This is because Thai society used to be a feudal society before. Therefore, most people do not like to trade but prefer to work for salary, farming, gardening etc. because they think that these occupations have more dignity and more stable than being a peddler (Tiyam, n.d.). Secondly, business-related issues are that today's direct selling business must be able to beat its competitors, have a good marketing plan and develop academic knowledge, psychology, and sales representative team building for work's efficiency (Tiyam, n.d.).

The significance of this study is that the findings are expected to contribute as a proven study for MLM companies to develop their distributor's recruitment plan, considering which factor is the most important as well as which is the least. In addition, this study narrows down to the different group of people which are under bachelor's degree and bachelor's degree and above to understand whether or not the selected key factors would affect these two groups differently. Refer to the experience of a researcher as one of top sales agents of a famous MLM company in Thailand, it has been observed that different group probably has a different motivational level to increase sales revenue. Ng and Feldman (2009) also confirmed the relationship between educational level and performance. Therefore, this study aims to

investigate determinants influencing success in sales performance of multilevel marketing agents/distributors in top ten direct sales companies in Thailand.

Literature Review

It is essential to review related theories that explain the background of multilevel marketing business model. Later, the definition of terms is explained to conceptualize variables used in this study.

Related Theories

Pyramid scheme

Pyramid scheme describes the organizational chart of MLM model which involving the promoters as a president who are at the top-level of an organization, followed by the downlines, including a vice president or initial investors and other investors below them. Then, a vice president recruits the next level of investors and create a chain for more and more investors. This pyramid scheme allows promoters to be independent business owners who can control money flow and provision of rewards. The pyramid scheme traditionally has four-level (Hyman, 2007). There is one person at the top level, two at the second level, four at the third level and eight at the bottom level.

Ponzi scheme

Charles A. Ponzi created a format of pyramid scheme namely Ponzi scheme in 1920s. The story began with Ponzi engaged investors for international coupons selling in other countries to make profit around 400 percent (Baker & Faulkner, 2003). He acclaimed the possibility to get 50 percent interest rate within two months form the extreme exchange rates difference. Therefore, he raised money for over $9.5 million with the issuance of promissory notes to investors around $14 million within eight months (Bhattarcharya, 2003). Ponzi loops the money from new investors to previous investors without actual investment in any bonds or securities (Ronzetti, 2005). Later, The U.S. Court of Appeals for the Eighth Circuit identified the case as a fraud that produce a snowball effect from the recruitment of more investors without any substantial business ventures (Nolasco et al., 2013).

Related Terms

Adaptive Selling

Adaptive selling refers to a personal sales style in which selling behaviors are adopted during the sales interface or customer interactions depended on information derived about a customer and the situation. Adaptive selling is also known as a sales technique which salespersons employ motivations to boost sales performance (Altintas et al., 2017; Jaramillo & Mulki, 2008; Rapp et al., 2008).

Compensation

Compensation is perceived as an incentive that motivates salespeople to increase performance (Jan & Islam, 2017). According to Umar (2010), compensation includes several aspects which are a fixed amount (salary), a variable amount (commission or bonuses), expenses (allowance), and alternative benefits (job security and satisfaction).

Customer Orientation

Customer orientation is a notion obtained from market orientation and some studies mentioned that both terms are identical (Mahmoud et al., 2020). On the other hand, market orientation can be conceptualized the entire companies, customers, and competitors (Yeo et al., 2021). The definition of customer orientation represents marketing and customers (Shu et al., 2019). Customer orientation is defined as “the degree to which salespeople perform marketing activities so that customers can

engage buying decision with satisfaction." (Franke & Park, 2006).

Organizational Commitment

Organizational commitment is explained as the affection of a sales agent or distributor to an organization exhibited through a recognition with its goals and values (Msweli, 2001). Organizational commitment is evaluated by the level of salesperson's performance, engagement and dedication to the firm. Several research have detected organizational commitment among MLM sales agents and distributors in long-term services (Jan & Islam, 2017; Rahman et al., 2014).

Perception on Products/Services

MLM agents depend on brand, product and services appeal to satisfy needs of customers (Koe & Soo, 2011). Perception on products/services is represented as perceived value which embedded with the seller's expertise and relationship management to their clients (Crittenden & Crittenden, 2004). The purchase decisions are usually impacted by positive experience and satisfaction obtained from the product quality and familiarity with the salespersons (Lee & Loi, 2016).

Sales Performance

Sales performance is viewed as managerial assessment of sales efficiency as well as organizational citizenship behaviors (Román & Rodríguez, 2015; Parvinen et al., 2013). Sales performance in MLM refers to personal sales volume productivity, sales volume generated by one's network, and the number of sales agents introduced in the network. It also focuses on the sales activities and the number of distributors employed in the network (Msweli, 2001).

Satisfaction

Satisfaction is termed as distributor's job satisfaction. Distributors are direct selling agents who operate customer interactions. A company is required to preserve distributors and cannot terminate them even though they fail to achieve sales target because they are not employees (Lee & Loi, 2016). Satisfaction is referred to the positive attitude of distributors towards the work, up-lines, product/service quality, organization policy and support, compensation, and clients (Kuntze, 2001).

Up-line Support

Up-line is a distributor who recruits another distributor to attend a business as a down-line. Up-line and down-line are common terms used in a MLM business. Up-line gains incentive per the level and generation (Lee & Loi, 2016). Up-line support can be described as financial support (commission) and relationship support through the sales achievement and satisfaction (Pratt, 2000).

Research Hypotheses

1. Customer Orientation and Adaptive Selling.

Customer orientation refers to a salespeople's perception of organizational culture or philosophy (Kotler, 1994). A MLM agents with high levels of customer orientation present adaptive selling behavior such as the active problems solving, well-organized customer interaction, friendly attitudes, and stable emotion and effective communications (Donavan et al, 2004). Yeo et al. (2019) predicted that customer orientation affects the salesperson's adaptive selling. As a result, H1 was set:

H1: Customer Orientation has a significant influence on Adaptive Selling.

2.Up-level Support and Satisfaction.

Good relationships among the up-line and down-line in the network promote stronger relationship to work towards personal and group objectives (Pratt, 2000). The emotional and information sharing support from up-line can produce higher

satisfaction of sales agents as they can achieve financial incentives as the end goal. Lee and Loi (2016) examined that up-line support in the multilevel marketing company significantly impacts the distributor's satisfaction. Hence, the following hypothesis was set:

H2: Up-level Support has a significant influence on Satisfaction.

3. Perception on Products/Services and Satisfaction.

MLM sales agents depend on brand appeal to products and services selling to their customers (Koe & Soo, 2011). Most MLM companies include product or service briefing in their initial business opportunity talk to potential distributors to build their satisfaction and engage sales activities. Lee and Loi (2016) affirmed the positive relationship between perception of products and services offered by the multilevel marketing company and distributor's satisfaction. The theoretical relationship was developed to establish a hypothesis:

H3: Perception on Products/Services has a significant influence on Satisfaction.

4. Compensation and Sales Performance.

Jan and Islam (2017) aggregated that compensation is a key motivational drive and forecast of sales performance. Behavioral scholars signified compensation as a prize or reward that attract sales agents to achieve target and beyond (Schöttner, 2015). Lopez et al. (2006) confirmed the positive relationship that salespeople performance is encouraged by increasing financial compensation. Consequently, the proposed hypothesis was obtained:

H4: Compensation has a significant influence on Sales Performance.

5. Organizational Commitment and Sales Performance

Organizational commitment plays a key role to drive sales performance as it can reduce the sales agent's turnover or switch to competitors (Sikorska, 2005). In addition, organizational commitment is the capacity of the salesperson to predict sales performance (Dale & Fox, 2008). Jan and Islam (2017) added that higher level of organizational commitment has been connected to higher sales performance and efficiency as stated in the following hypothesis:

H5: Organizational Commitment has a significant influence on Sales Performance.

6. Adaptive Selling and Sales Performance

Yeo et al. (2019) stated that adaptive selling positively effects sales performance of the salesperson. Adaptive selling explains the identification of customer's need to purchase products or services. Furthermore, adaptive selling improves the sales performance by encouraging a rapport and reducing purchase resistance in a sales situation (Pelham & Kravitz, 2008). Thus, it can be hypothesized that the adaptive selling significantly affects the sales performance and set the following hypothesis:

H6: Adaptive Selling has a significant influence on Sales Performance.

7. Satisfaction and Sales Performance

Satisfaction has an impact on salesperson's performance per evidenced in various studies (Jan & Islam, 2017; Johnson & Sohi, 2014). However, some researchers indicated that satisfaction does not impact to better performance (Carmeli et al., 2007). Besides, there are many more influencers affecting satisfaction which also indirectly link to sales performance such as recognition, career growth, leadership and supervisor feedback, compensation and incentives, job autonomy and teamwork. Thus, a hypothesis was proposed:

H7: Satisfaction has a significant influence on Sales Performance.

In summary, this research investigated the significant relationship of customer orientation on adaptive selling. Up-line support and perception on products/services and satisfaction. Compensation, organizational commitment, adaptive selling and satisfaction on sales performance.

4. Research Methods and Materials

Research Framework

The research framework was adopted based on five previous literatures. Firstly, Jan and Islam (2017) studied factors affecting performance of salespeople performance of mobile service providers in Bangladesh. Secondly, Msweli (2001) examined distributor's performance in network marketing companies. Thirdly, Yi et al. (2021) investigated influencers of sales-related capabilities of cosmetics personal selling organizations on individual sales capability, sales behaviors and sales performance. Fourthly, Yeo et al. (2019) explored the customer orientation and adaptive selling of salespersons for performance in Korea. Lastly, Lee and Loi, (2016) analyzed satisfaction of distributors in multilevel marketing companies. The conceptual framework of this research is shown in Figure 1.

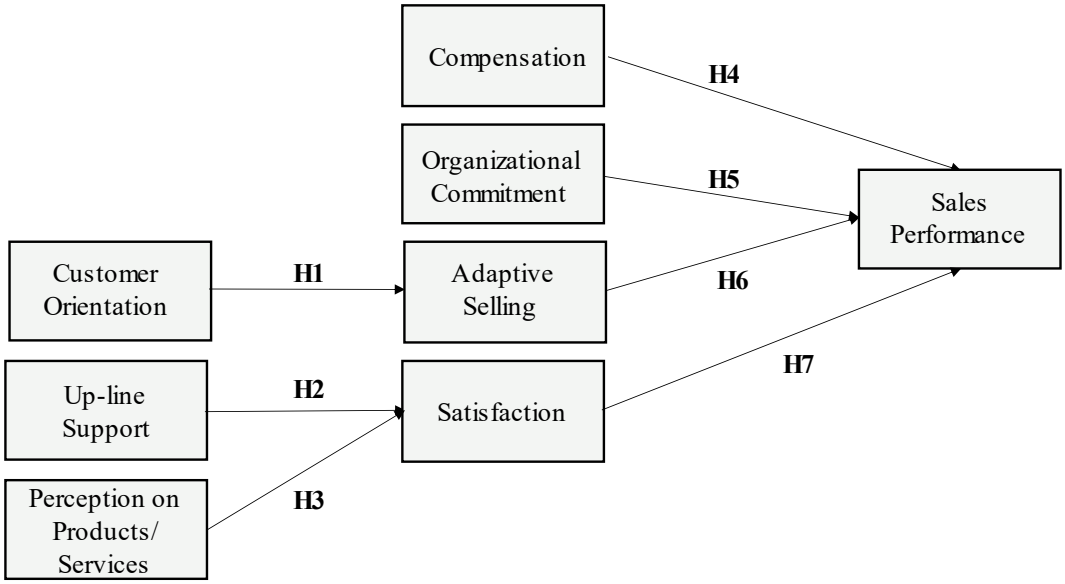

Figure 1 Conceptual Framework

The research aims to investigate how customer orientation, adaptive selling, up-line support, perception on products/services, satisfaction, compensation, organizational commitment impact sales performance. 8 variables and 7 hypotheses were proposed as a conceptual framework.

Methodology

The methodology used in this study is quantitative approach to distribute online questionnaires to 1,000 participants. The questionnaire has three parts, including screening questions, scale items with 5-point Likert scale and demographic information.

Prior to the data collection, Item-Objective Congruence (IOC) validity test by the rating score of three experts and Cronbach's Alpha (CA) reliability test of 50 participants were tested. IOC test was passed at all items are reserved at 0.5 and above whereas CA was acceptable at above 0.6 (Nunnally &

Bernstein, 1994). Later, the questionnaire was distributed to two group of participants who are direct sales agent of the top ten MLM companies, including 500 participants who are below bachelor's degree and 500 participants who are bachelor's degree and above. The multistage sampling technique was applied by using nonprobability sampling method, including purposive to select the MLM agents or distributors in the top ten direct sales companies by revenue of year 2020 in Thailand, quota sampling to calculate from total agents/distributors of each company and convenience sampling to distribute online survey. The data analysis was made by confirmatory factor analysis (CFA) and structural equation model (SEM), using SPSS and AMOS software.

Population and Sample Size

The population used in this research will be based on MLM agents/distributors in the top ten direct sales companies in Thailand (Tayal et al., 2018) with the minimum net income around THB 50,000 per month for six months within one year and have at least one year experience with a company (Jan & Islam, 2017). The reason for the selection is that these group of people with the income criteria used are viewed as a successful sales agent group who have been actively working with top profitable MLM companies in Thailand which can be ensured to meet the research objectives to determine the success factors on sales performance.

The recommended minimum sample size according to Soper (n.d.) is 444. However, this study aims to understand the success factors affecting two group of people who have the different educational background. The researchers consider minimum sample size of 500 in two groups, including below bachelor's degree and bachelor's degree and above in the total of 1,000 participants.

Sampling Technique

This research applied multistage sampling technique in three steps. Firstly, purposive sampling is to select MLM agents/distributors in the top ten direct sales companies in Thailand with the minimum net income around THB 50,000 per month for six months within one year and have at least one year experience with a company. Secondly, quota sampling is used to formulate total agents/distributors of each company. The proportional calculation of sample size is illustrated per Table 1. Lastly, convenience sampling is applied to distribute survey via online and social networks channels such as Line Application and Facebook. In addition, this study applied multivariate statistics to examine at more than two variables (Tabachnick & Fidell, 2007).

Table 1 Sample Size Calculated per Quota Sampling

Top Ten Companies by 2020 Revenue	Number of agents/distributors in Thailand	Quota Calculation Below Bachelor's (n=500)	Quota Calculation Bachelor's and Above (n=500)	Percentage (100%)
1. Amway Thailand	720,000	62	62	12%
2. Giffarine	700,000	60	60	12%
3. Zhulian	2,000,000	173	173	34%
4. Legacy	400,000	34	34	7%
5. Joy & Coin	400,000	34	34	7%
6. Summit Queen	100,000	9	9	2%
7. Successmore	180,000	16	16	3%
8. Nu Skin	100,000	9	9	2%
9. Unicity	500,000	43	43	9%
10. Mor Seng	700,000	60	60	12%

Source: constructed by author

Results and Discussion

1. Demographic Information

For the group of people are below bachelor's degree, the demographical results are males of 30.2% and females of 69.8%. The major group of age is 31-40 years old of 22.4%. Most of participants are married with 64.4%. For occupation, workers are the major group, representing 17.4%. Net income level from solely direct sales is 80.2% in THB 50,000-100,000 of most participants.

Bachelor's degree and above are males 42.4% and females of 57.6%. The marital status of most participants is married of 58.8%. Participants are majorly corporate employees with 19.0%. Most participants have been earning revenue from direct sales between THB 50,000-100,000, representing 78.8%. All demographical results are displayed in Table 2.

Table 2 Demographic Profile
Source: constructed by author

N=1000	Demographic Questions	Below bachelor's degree (n=500)	Bachelor's degree and above (n=500)
Gender	Male	30.2%	42.4%
	Female	69.8%	57.6%
Age	20 Years Old or Less	11.6%	5.6%
	21-30 Years Old	19.8%	11.8%
	31-40 Years Old	22.4%	39.4%
	41-50 Years Old	21.6%	17.0%
	51-60 Years Old	17.4%	15.8%
	Above 60 Years Old	7.2%	10.42%
Marital Status	Single	35.6%	41.2%
	Married	64.4%	58.8%
Occupation	Government Officer	14.2%	16.4%
	Corporate Employee	16.6%	19.0%
	Entrepreneur/ Business Owner	10.4%	9.6%
	Students	15.0%	12.2%
	Workers	17.4%	15.8%
	Househusbands/Housewives	14.2%	13.2%
	Retirement	7.2%	9%
	Others	5%	4.8%
Net Income Level from Direct Sales Companies (Per Month)	THB 50,000-100,000	80.2%	78.8%
	THB 100,001-200,000	13.6%	9%
	THB 200,001-300,000	5.8%	11%
	THB 300,001- 400,000	0.4%	0.8%
	Above THB 400,000	0%	0.4%

2. Confirmatory Factor Analysis (CFA)

CFA was applied as the analysis of measurement model before structural model (SEM). The reason using CFA is that there are number of literatures that was previously reviewed and are adequate for running confirmatory approach. CFA's results signified that all items in each variable were significant and had factor loading to prove discriminant validity. Guidelines recommended by Hair et al. (2006) defined the significance of factor loading of each item and had acceptable values of goodness of fit. Factor loadings were greater than 0.50 and p-values were less than 0.05. Nevertheless, Average Variance Extracted (AVE) was below 0.5 but Composite Reliability (CR) was higher than 0.6. Thus, the convergent validity of the construct was still adequate as presented in Table 3 (Fornell & Larcker, 1981). In addition, the result revealed the constructs have coefficient of internal consistency

under Cronbach's Alpha values were above 0.6 which is considered high reliability and acceptable index (Nunnally & Bernstein, 1994) as illustrated in Table 4.

Table 3 Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source	Below Bachelor's Degree				Bachelor's Degree and Above			
		Factors Loading	t-value	CR	AVE	Factors Loading	t-value	CR	AVE
Customer Orientation (CU)	Yeo et al. (2019)	0.687-0.809	14.734*-17.049*	**0.832**	**0.554**	0.670-0.714	12.232*-12.821*	**0.782**	**0.473**
Up-line Support (US)	Delgado (2000)	0.829-0.859	21.849*-22.321*	**0.881**	**0.712**	0.689-0.777	13.552*-14.503*	**0.770**	**0.528**
Perception on Products/Services (PS)	Osei et al. (2014)	0.680-0.707	13.302*-13.771*	**0.821**	**0.479**	0.643-0.707	11.721*-12.585*	**0.806**	**0.454**
Compensation (CO)	Jan and Islam (2017)	0.678-0.792	14.391*-15.224*	**0.856**	**0.545**	0.707-0.810	15.629*-18.098*	**0.861**	**0.555**
Organizational Commitment (OC)	Jan and Islam (2017)	0.648-0.806	14.881*-19.406*	**0.881**	**0.554**	0.665-0.726	13.700*-14.712*	**0.851**	**0.488**
Adaptive Selling (AS)	Jaramillo et al. (2007)	0.624-0.706	11.524*-12.663*	**0.806**	**0.454**	0.736-0.820	16.203*-17.748*	**0.878**	**0.590**
Satisfaction (SF)	Delgado (2000)	0.631-0.810	13.816*-17.976*	**0.845**	**0.524**	0.639-0.826	14.356*-19.250*	**0.880**	**0.596**
Sales Performance (SP)	Jan and Islam (2017)	0.595-0.737	11.224*-13.263*	**0.805**	**0.454**	0.669-0.801	13.611*-15.027*	**0.856**	**0.544**

Note: CR = Composite Reliability, AVE = Average Variance Extracted
* = Significant at the 0.05 significant levels ($p<0.05$)
Source: Created by the author

Table 4 The Value of Reliability Analysis of Each Construct in this Study (N=500 for each group)

Variable	Number of Items	Cronbach's Alpha	
		Below Bachelor's Degree	Bachelor's Degree and Above
Customer Orientation (CU)	4	0.831	0.781
Up-line Support (US)	3	0.881	0.766
Perception on Products/Services (PS)	5	0.821	0.806
Compensation (CO)	5	0.856	0.859
Organizational Commitment (OC)	6	0.880	0.850
Adaptive Selling (AS)	5	0.802	0.877
Satisfaction (SF)	5	0.845	0.879
Sales Performance (SP)	5	0.802	0.856

Source: Constructed by author

Table 5 and 6 present discriminant validity that was formulated by the square root of each AVE. The results show that discriminant validity value is larger than all inter-construct/factor correlations which is supportive. The convergent and discriminant validity were ensured as it is adequate to confirm construct validity.

Table 5 Discriminant Validity for Marketing Agents who are Below Bachelor's Degree

	PS	CU	US	SF	SP	OC	CO	AS
PS	**0.692**							
CU	0.125	**0.745**						
US	0.451	0.237	**0.844**					
SF	0.005	0.025	-0.002	**0.724**				
SP	0.428	0.367	0.570	0.009	**0.674**			
OC	0.197	0.094	0.262	-0.082	0.231	**0.744**		
CO	0.418	0.320	0.411	0.013	0.498	0.170	**0.738**	
AS	0.514	0.242	0.563	0.003	0.567	0.194	0.539	**0.674**

Note: The diagonally listed value is the AVE square roots of the variables

Table 6 Discriminant Validity for Marketing Agents who are Bachelor's Degree and Above

	PS	CU	US	SF	SP	OC	CO	AS
PS	**0.674**							
CU	0.029	**0.688**						
US	-0.020	0.626	**0.726**					
SF	0.209	0.055	0.034	**0.772**				
SP	0.465	0.031	0.015	0.168	**0.738**			
OC	0.425	0.046	0.021	0.199	0.418	**0.699**		
CO	0.012	0.458	0.577	-0.015	-0.003	0.077	**0.745**	
AS	0.013	0.404	0.451	-0.053	-0.023	0.027	0.657	**0.768**

Note: The diagonally listed value is the AVE square roots of the variables

The fit model of CFA showed that CMIN/DF, GFI, AGFI, NFI, CFI, TLI and RMSEA were measured to confirm convergence validity and discriminant validity. All estimates were higher than acceptable values. Therefore, the convergence validity and discriminant validity were assured as shown in Table 7.

Table 7 Goodness of Fit for Confirmatory Factor Analysis (CFA)

Index	Acceptable Values	Statistical Values	
		Below Bachelor's Degree	Bachelor's Degree and Above
CMIN/DF	< 3.00 (Hair et al., 2006)	973.008/637 = 1.527	977.595/637 = 1.535
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.908	0.908
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.893	0.893
NFI	≥ 0.80 (Wu & Wang, 2006)	0.892	0.893
CFI	≥ 0.80 (Bentler, 1990)	0.959	0.960
TLI	≥ 0.80 (Sharma et. al., 2005)	0.955	0.955
RMSEA	< 0.08 (Pedroso et al., 2016)	0.033	0.033
Model summary		**Acceptable Model Fit**	**Acceptable Model Fit**

Remark: 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 = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index and RMSEA = root mean square error of approximation

Source: constructed by author

3. Structural Equation Model (SEM)

SEM was used to examine parameters in the observed variables and latent variables analysis and to confirm relationships among constructs in this research (Jöreskog & Sörbom, 1993). SPSS AMOS was a tool to measure and modify the model of the good fit for structural equation model. As a result, all values were greater than acceptable criteria per presented in Table 8.

Table 8 Goodness of Fit for Structural Equation Model (SEM)

Index	Acceptable Values	Statistical Values After Adjustment	
		Below Bachelor's Degree	Bachelor's Degree and Above
CMIN/DF	< 3.00 (Hair et al., 2006)	1523.006/651 =2.339	1742.264/655 =2.660
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.851	0.853
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.831	0.834
NFI	≥ 0.80 (Wu & Wang, 2006)	0.830	0.810
CFI	≥ 0.80 (Bentler, 1990)	0.895	0.871
TLI	≥ 0.80 (Sharma et. al., 2005)	0.886	0.862
RMSEA	< 0.08 (Pedroso et al., 2016)	0.052	0.058

Index	Acceptable Values	Statistical Values After Adjustment	
		Below Bachelor's Degree	Bachelor's Degree and Above
Model summary		Acceptable Model Fit	Acceptable Model Fit

Remark: 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 = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index and RMSEA = root mean square error of approximation

Source: constructed by author

The regression weights and R^2 variance confirm significant support in this study as reported in Table 9 when p = 0.05.

For the group of below bachelor's degree, adaptive selling had the strongest influence on sales performance at β = 0.498, followed by compensation on sales performance at β = 0.357, customer orientation on adaptive selling at β = 0.256, and organizational commitment on sales performance at β = 0.129. There was no support in the relationship between up-level support and satisfaction, perception on products/services and satisfaction, and satisfaction on sales performance.

Bachelor's degree and above group presented the strongest significant between customer orientation and adaptive selling at β = 0.480, whereas organizational commitment on sales performance at β = 0.461, perception on products/services and satisfaction at β = 0.255, and satisfaction on sales performance at β = 0.112. The insignificant relationships were up-line support on satisfaction, compensation on sales performance and adaptive selling on sales performance.

Table 9 Hypotheses Testing Result of the Structural Model for the group of MLM Agents who are Below Bachelor's Degree and Bachelor's Degree and Above

Hypothesis	Standardized path coefficient (β)		t-value		Hypothesis testing result	
	Below Bachelor's	Bachelor's & above	Below Bachelor's	Bachelor's & above	Below Bachelor's	Bachelor's & above
H1: CU → AS	0.256	0.480	4.677*	7.926*	Supported	Supported
H2: US → SF	-0.013	0.042	-0.246	0.814	Not Supported	Not Supported
H3: PS → SF	0.010	0.255	0.183	4.691*	Not Supported	Supported
H4: CO → SP	0.357	-0.025	6.647*	-0.539	Supported	Not Supported
H5: OC → SP	0.129	0.461	2.866*	8.049*	Supported	Supported
H6: AS → SP	0.498	-0.023	7.653*	-0.479	Supported	Not Supported
H7: SF → SP	0.013	0.112	0.290	2.378*	Not Supported	Supported

Note: *p<0.05 Source: Created by the author

The results from Table 9 are summarized as followed:

H1: The standardized path coefficient between customer orientation and adaptive

selling was 0.256 (t-value = 4.677*) in the group of below bachelor's degree. For bachelor's degree and above, the value was 0.480 (t-value = 7.926*). Therefore, both groups showed a significant relationship between customer orientation and adaptive selling. Subsequently, H1 was supported in both groups.

H2: Up-level support had no significant influence on satisfaction as the standardized path coefficient among below bachelor's degree group was -0.013 (t-value = -0.246). and bachelor's degree and above was 0.042 (t-value = 0.814). Hence, H2 was not supported in both groups.

H3: The standardized path coefficient between perception on products/services and satisfaction was not supported in the group of below bachelor's degree at the value of 0.010 (t-value = 0.183). In the opposite, there is a support in the group of bachelor's degree and above with the value of 0.255 (t-value = 4.691*).

H4: There was a significant the relationship between compensation and sales performance with the standardized path coefficient of 0.357 (t-value = 6.647*) in below bachelor's degree group. On the other hand, the standardized path coefficient of bachelor's degree and above group was -0.025 (t-value = -0.539) which showed no support.

H5: Organizational commitment had a significant influence on sales performance in both below bachelor's degree and bachelor's degree and above group which was 0.129 (t-value = 2.866*) and 0.461 (t-value = 8.049*) respectively. Thereby, H5 was supported in both groups.

H6: The standardized path coefficient between adaptive selling and sales performance was 0.498 (t-value = 7.653*). Therefore, H6 was supported in the group of below bachelor's degree. Whereas the group of bachelor's degree and above presented no support of H6 at the value of -0.023 (t-value = -0.479).

H7: The standardized path coefficient between satisfaction and sales performance was 0.013 (t-value = 0.290) in below bachelor's degree group. As a result, H7 was not support. The group of bachelor's degree and above presented the value of 0.112 (t-value = 2.378*). So, H7 was supported in this group.

Conclusion and Implications

1. Conclusion

This study achieved to examine determinants influencing success in sales performance of multilevel marketing agents in Thailand. The sample group was divided in two groups to investigate whether there were different factors that significantly affected sales performance which was below bachelor's degree and bachelor's degree and above. The conceptual framework was developed with 8 latent variables and 7 hypotheses. The quantitative approach was applied to distributing online questionnaires for the data collection. Prior to collecting the data, content validity (IOC) and reliability (Cronbach's Alpha) were measured to proceed the data collection. Afterwards, CFA confirmed factor loading convergent validity, discriminant validity and fit model. Lastly, SEM verified the casual relationship and research hypotheses. The findings revealed that both groups of different educational level had both similar and different factors affecting salespersons' performance. Firstly, customer orientation has a significant influence on adaptive selling in both groups. Secondly, up-level support had no significant influence on satisfaction in both below bachelor's degree group and bachelor's degree and above group. Thirdly, perception on products/services and satisfaction was not

supported in the group of below bachelor's degree. In turns, there was a causal relationship among them in bachelor's degree and above group. Next, there was a significant relationship between compensation and sales performance in the group of below bachelor's degree, but not impact in the group of bachelor's degree and above. Fifthly, organizational commitment had a significant influence on sales performance in both groups. Sixthly, adaptive selling had a significant impact on sales performance in the group of below bachelor's degree, but not significant in the group of bachelor's degree and above. Lastly, satisfaction had no significant impact on sales performance in the below bachelors' degree group, but it was significant in bachelor's degree and above group.

In summary, adaptive selling has the strongest significant influence on sales performance in below bachelor's degree group followed by, compensation on sales performance, customer orientation on adaptive selling and organizational commitment on sales performance. For the group of bachelor's degree and above, customer orientation had the strongest influence on adaptive selling, followed by organizational commitment on sales performance, perception on products/services on satisfaction and satisfaction on sales performance.

2. Implications

The findings implied that there were key factors that drive below bachelor's degree and bachelor's degree and above both similarly and differently. Therefore, the human resources practitioners and sales and marketing strategists are required to customize salespersons' development plan according to significant factors that enhance the sales performance in each group.

For below bachelor's degree group, they concern that their sales strategies must be flexible and adaptative as they learn how to sell their target customers by their experience and customer relationships. Direct selling companies are required provide sufficient and innovative sales tools for this group such as e-catalog, e-commerce platform and sales support to be ready for them to adapt according to the customers reaction's situation. Compensation secondly motivates sales performance in this group which means that they need clearly and fairly provided incentives. The companies should communicate clearly and closely on the incentive level and to pay them on time at the end of the month. Customer orientation also creates confidence of this people group as the companies provide efficient marketing campaign such as product information, sales promotion and customer engagement activities (i.e., sport days, abroad trip) to ensure the customer's attraction and differentiation from their competitors. Finally, this group values the commitment of MLM companies to provide accurate, clear and sufficient incentives for sales agents' effort, and to deliver on-time products and provide high quality service to their customers.

The bachelor's degree and above group views the most important factor differently from the below bachelor's degree group. Customer orientation is the most essential factor that can impact their sales adaptation. This group focuses on how they could provide enough information to their target customers in order to create sales in long-term. The MLM companies should emphasize the sales guide and training on how to satisfy and retain customers for this group. The organizational commitment is also a key factor affecting sales performance

in this group which is similar to another group on what the companies promise to their sales agents and their customers must be fulfilled completely and timely. Perception on products/services is to assure the quality of product and service to create sales agents' satisfaction. Salespeople in this group would like to establish long-term relationship and repurchase of their customers. They need to try and like the product before they sell which later to be able to increase sales performance without difficulties.

3. Limitation and Further Study

This research is limited to quantitative study. To have insightful information and understand more about the success factors in the MLM sales agents' performance, the qualitative approach such as interview and focus group can be extended. In addition, this study merely focuses on MLM companies in Thailand. The future research can consider further to MLM companies in other regions or other companies in different industries to contribute as marketing study widely.

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FACTORS IMPACTING PURCHASE INTENTION OF COSMETIC PRODUCTS VIA SOCIAL COMMERCE PLATFORMS IN CHENGDU

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ABSTRACT

This research aims to investigate factors influencing purchase intention of cosmetics products via social commerce among Chinese Millennials generation in Chengdu, China. There were seven variables in this study including brand loyalty, brand awareness, social media usage, electronic word of mouth, electronic referral, brand image and purchase intention. The population and sample size (n=450) were Millennials who were born between 1980 and 2000 and currently live in Chengdu. The quantitative method was applied with nonprobability sampling method, including purposive sampling, convenience sampling and snowball sampling. Before the data collection, Item-Objective Congruence (IOC) validity and Cronbach's Alpha (CA) reliability were examined. Afterwards, confirmatory factor analysis (CFA) was used to analyze factor loadings, convergent validity, discriminant validity and goodness of fit indices. Later, structural equation model (SEM) was used to determine hypotheses and relationships between variables. The findings revealed that brand loyalty had the strongest effect on electronic word of mouth which also effected brand image. Brand awareness, electronic referral, brand loyalty and social media usage significantly affected purchase intention. Nevertheless, there were no significant effect on the relationship between brand awareness and electronic word of mouth, electronic word of mouth and purchase intention, electronic referral and brand image, and brand image and purchase intention. Marketers are recommended to drive marketing strategies targeting Chinese Millennial customers by using digital advertising, loyalty scheme and referral program.

Keywords: Brand Awareness, Brand Image, Brand Loyalty, Social Media Usage, Electronic Referral, Electronic Word of Mouth, Purchase Intention

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Introduction

Within the past twenty years, social media has become a mainstream channel for marketing communications around the world. In later age, digital marketing has played an important role which acquires large allocation of budget. Electronic commerce has grown widely and has evolved to be a social commerce following the rise of social media usage. There are numerous social platforms that has been using for communicating, selling and buying products. In global market, the large technology companies such as Meta (as known as Facebook and Instagram), Google and many more have been revolved from communication platform to social commerce. Nevertheless, China is the unique country that has developed its own social platform to serve Chinese people due to a government policy such as Weibo, WeChat and so on.

China (with 64.6% of the population using social media) is the largest country in the world in terms of social media usage (Kemp, 2021a). 59% of these users are between the ages of 20 and 49, which means the Millennial generation is the largest group of social media users by age. On average, Chinese users engage social media for 2 hours and 4 minutes per day (Kemp, 2021a). The most used social media networks include Weixin and Sina Weibo. China is also the world's largest social commerce hub, with most of the current and projected future growth in social commerce over the next six years (Coppola, 2021).

E-commerce and social commerce have incredibly grown 40% in average from year to another in China with a total number of transactions of €354 billion. The cosmetics market in China is the second-largest cosmetics market in the world, after the US with an average of 15% growth per year and acquires the biggest market in online sales. Chinese consumers are considered to be price sensitive and they usually check the lowest price comparing between offline and online. Thus, most cosmetic brands are forced to present on popular social media channels i.e., Taobao, Jumei, Tmall, JD.com, Bilibili, Little Red Book, Yoka, Kimiss etc. Electronic word of mouth is very important in the online purchase decision of Chinese consumers (Cosmetics China, n.d.).

The problem of this research is how Chinese Millennial consumers engage with brands on social media. Social commerce is a rapid change in e-commerce, because marketers have been not just communicating with consumers on social media, but also selling directly to them (Han et al., 2018). As yet, it is unclear in the most literature how consumers respond to social commerce because it is a relatively new practice. With the earliest uses of social media for direct selling in 2009, the practice has been only becoming common within the past five years (Wu & Li, 2018). This means that there are a lot of unanswered questions about the marketing practice of social commerce. In fact, Han et al. (2018) conducted a comprehensive review of social commerce literature and found that the academic study on the topic was fragmented and incomplete.

The main significance of the study is academic in nature. Previously, few studies have integrated the perspectives of consumer-based on brand equity and social media engagement, which were examine in this study. Furthermore, very few of these studies have investigated the role of digital marketing in the consumer decision process for cosmetics markets. Therefore, the interaction of marketers and consumers, the development of

consumer-based brand equity, and ultimate online purchase intentions have been under investigated. In addition, the cosmetic industry is enormous in China and cosmetic products in social commerce has gained a lot of attention which is worth wide to inspect the factors affecting purchase intention of consumers

Literature Review

This study involves literature reviews to explain the previous theories and terminologies for clearer interpretation and the development of research model.

Related Theories

1. Consumer Decision Model (CDM)

The consumer decision model (CDM) is a classical model of consumer decision-making (Bray, 2008). The CDM was developed over several decades by a group of researchers (Blackwell et al., 2005) and is often called the Engel-Blackwell-Miniard model of consumer decision-making. The most recent statement of the CDM argues that consumer decisions are made through a central cognitive process, termed the decision process (Blackwell et al., 2005; Bray, 2008). This process begins with need recognition, then the consumer conducts a search through internal and external sources for possible alternatives and evaluates these alternatives in accordance with their needs. The consumer makes a purchase decision to engage in a series of post-purchase evaluations based on their level of cognitive dissonance between their performance expectancy and experience. Based on the outcome of this evaluation, individuals may be satisfied, dissatisfied, or decide to divest from the product entirely. Consumers do not make this decision entirely in isolation, instead, various inputs including advertising information go through a process of exposure, attention, comprehension, acceptance and retention to become internalized to the consumer's decision process. Furthermore, the consumer's environment and individual differences and preferences also influence their consumer decision process. Therefore, each individual consumer decision results from a combination of the consumer's own needs, their environment and individual preferences, and the receipt and processing of marketing information (stimuli), which come together to form a single decision. The CDM does have some weaknesses as a theoretical model, including that it is highly complicated and therefore is not often directly empirically tested (Kotler & Armstrong, 2012). However, it is a comprehensive and specific model that includes both internal and external factors in the purchasing process, making it a useful theory for this study.

2. Consumer Based Brand Equity (CBBE) Theory

Consumer-based brand equity (CBBE) is a theory that explains how individual consumers form affective relationships with brands and how these affective relationships translate to consumer responses (Kotler & Armstrong, 2012). The CBBE bases on a brand resonance pyramid model (Keller, 2009). This four-step model relates the brand and its marketing to consumer responses. At the bottom of the brand resonance pyramid, it is brand salience or brand awareness. The second level is brand meaning or brand image, including knowledge about brand performance (or functional characteristics) and brand imagery (or symbolic and emotional characteristics). The third level is consumer responses, including consumer judgments (e.g., perceived quality) and

feelings (e.g., satisfaction with the brand experience). Finally, the top of the pyramid is brand resonance, which is the consumer-brand relationship. This component includes brand loyalty, along with other responses such as brand engagement (Keller, 2009). The CBBE pyramid illustrates brand awareness, brand image and brand loyalty, which have an influence on each other through the brand equity pyramid. Furthermore, these constructs conceptualize individuals with deeper brand awareness and more positive brand image impacting brand loyalty (Keller, 2009).

3. Social Network Theory

The concepts of electronic word of mouth (eWOM) and electronic referral (eReferral) are used in this study which are based in social network theory (Abubakar et al., 2016; Nusair et al., 2017). Social network theory is a theoretical approach to understanding relationships between people and how they influence the actions and beliefs of individuals (Liu et al., 2017). It is based on several disciplinary traditions, including interpersonal relations theory, sociometric, and anthropology.

Social network theory proposes that individuals can be understood as nodes within a network, and relationships with individuals represented as ties to other nodes (Liu et al., 2017). The strong ties of the relationship between individuals are the relationship with family members and close friends, while other relationships are weak ties. However, this does not mean these ties are unimportant. As Liu et al. (2017) noted, weak ties are highly relevant for the sharing of information and persuasion effects, particularly among central nodes and their connections. Central nodes (who can be considered as influencers) have weak ties to many other people and groups, through which they can pass information and communicate. Thus, these connections are important for consumers and their influences on each other. Social network theory can also be used to explain persuasion and adoption of innovations through social networks; central nodes (influencers) provide knowledge and persuasive information, which then inform decisions for adoption (Liu et al., 2017). Thus, social network theory is a powerful theory for understanding how individuals influence each other through social media channels.

4. Electronic Word of Mouth (eWOM) Theory

The theory underlying eWOM is relevant to this research because while it shares similarities with social network theory, it also addresses the content of the eWOM itself (Ismagilova et al., 2019). eWOM can be understood through the lens of the information adoption model (IAM) (Erkan & Evans, 2016; Sussman & Siegal, 2003). The IAM argues that whether individuals choose to adopt information offered to them depends on the perceived usefulness of the information. Information usefulness is determined in turn by the argument quality (or how good the argument is viewed) and source credibility (or how reliable and trustworthy the information source is viewed). Erkan and Evans (2016) extended the IAM to explain the effect of eWOM by adding further characteristics, including individual information needs and attitudes toward eWOM. There are also other characteristics of eWOM that could influence the adoption of eWOM information (Ismagilova et al., 2019). One of these factors is valence (whether the eWOM is positive, negative, or neutral). Other factors include eWOM volume (how many eWOM sources there are), age of the eWOM

and perceived trustworthiness of eWOM (Ismagilova et al., 2019). While these factors relate to eWOM, they could also apply to eReferral, particularly referral quality and source credibility. The problem of dissonance related to eReferral incentives (Abubakar et al., 2016; Al-Htibat & Garanti, 2019) can also be addressed under this theory. Specifically, offering incentives for eReferral could be viewed as degrading source of credibility, which would have a negative impact on information usefulness. Thus, eWOM theory, especially the various extensions of the IAM, is useful for understanding how eWOM and eReferral influence consumer's decision making.

Related Terms

6. Brand Awareness

Brand awareness is briefly defined as the strength of a brand's presence in consumers' minds (Hutter et al., 2013). Brand awareness is one aspect of brand equity, which is the difference in consumer choice between the focal branded product and an unbranded product given the same level of product features (Rossiter, 2014; Khan et al., 2015). Brand awareness is one of the dimensions of brand knowledge, along with brand image. Specifically, it is the aspect of brand knowledge that is concerned with brand associations (Yoo et al., 2000).

7. Brand Image

There are many different definitions of brand image, which take different perspectives on symbolism, meaning, and cognition (Lee et al., 2014; Cian, 2011, p. 166). This research uses definitions which emphasize symbolism, meaning, and cognitive and psychological aspects of the brand (Severi & Ling, 2013). One of these definitions is that brand image is consumers perceptions and beliefs about the particular brand through which consumers are able to evaluate the quality, recognize a product, reduce purchase risks and attain satisfaction (Khan et al., 2015, p. 173).

8. Brand Loyalty

Brand loyalty is defined as cognitive, emotional and behavioral response to the brand by the customer, which intensifies over time (Keller, 2009; Cheng, 2011). Brand loyalty is one of the forms of brand resonance, in which the customer responds to positive experiences with the brand by increasing their depth relationship (Back & Parks, 2003). A more specific definition is that brand loyalty is the degree of closeness of the client to a specific brand (Malik et al., 2013, p. 168).

9. Social Media Usage

Social media explains the adoption and use of social media by individual consumers (Prasad et al., 2019). Use of social media is a multi-level process, including adoption of the technology itself and acculturation to the social media environment (Kizgin et al., 2018; Brooks, 2015). Through the acculturation process, users begin to understand the social norms that are present in social media and how it can and should be used (Kizgin et al., 2018). Another way to understand social media usage is that it is a process of engagement with specific communication channels (Di Gangi & Wasko, 2016).

10. Electronic Referral (eReferral)

Electronic referral or online referral (eReferral) has been defined as a pass-along effect that is generated by customers directly recommending the firm or brand to another potential customers (Abubakar et al., 2016; Abubakar & Ilkan, 2016). Another definition of eReferral is that it is any positive or negative statement made by a close ally about a product or company, which is made

available to friends, relatives, colleagues and acquaintances via the Internet (Al-Htibat & Garanti, 2019, p. 528; Babić Rosario et al., 2020).

11. Electronic Word of Mouth (eWOM)

The concept of electronic word of mouth (eWOM) is based on word of mouth (WOM), which can be defined as all kinds of interpersonal communication (positive and negative) about a company, brand or product between a receiver and a communicator, who is perceived as non-commercial (Hutter et al., 2013)." eWOM, therefore, is interpersonal communication about brands or products facilitated by electronic communications, such as the Internet (Abubakar et al., 2016; Babić Rosario et al., 2020; Kudeshia & Kumar, 2017).

12. Purchase Intention

There are several different ways the purchase intention can be defined. One of these definitions is the intention to transaction, or the intent of the consumer to engage in online exchange relationships with the web retailer (Prasad et al., 2019, p. 375). This is useful because it is not only online specifically but also how purchase intention forms or what it means (Malik et al., 2013; Khan et al., 2015). Another definition is that purchase intention is the mental stage in the decision process where the consumer has developed an actual willingness to act toward an object or brand (Hutter et al., 2013, p. 346).

Research Hypotheses

1. Brand Loyalty and eWOM

The relationship between brand loyalty and eWOM is indicated within the CBBE theory, as part of brand engagement which is the provision of eWOM and other information to other consumers (Keller, 2009). However, most studies have investigated eWOM's effect on brand loyalty, rather than the other direction. There is some empirical evidence that supports a relationship between brand loyalty and eWOM. The study of Poulis et al. (2019) offers evidence that brand loyalty contributes to eWOM, which the authors conceptualized as willingness to provide eWOM. Consequently, H1 was set:

H1: Brand loyalty has a significant effect on eWOM.

2. Brand Awareness and eWOM

eWOM theory suggests that brand awareness would be a relevant information for quality eWOM (Ismagilova et al., 2019). A gap in the literature is that there have been few studies that have examined the brand awareness and eWOM relationship in the cosmetics industry. Instead, most studies have investigated the effect of eWOM on brand awareness. However, evidence from other fields does support a causal relationship between brand awareness and eWOM sending (Hutter et al., 2013). Thus, the following hypothesis was set:

H2: Brand awareness has a significant effect on eWOM.

3. eWOM and Brand Image

Abubakar et al. (2016) serves the leading study of the relationship between eWOM and brand image. Their research tested both eReferral and eWOM and found that eWOM had a strong and significant positive effect on the consumer's brand image. There are also several other studies which can support this relationship. Another series of experimental and exploratory studies showed that eWOM could influence brand image (Sandes & Urdan, 2013). The theoretical relationship was constructed to propose a hypothesis:

H3: eWOM has a significant effect on brand image.

4. eReferral and Brand Image

Like eReferral and purchase intentions, the relationship of eReferral on brand image has not been investigated by many studies, with the result that there is a small, mixed and ambiguous set of findings for the relationship. Abubakar et al. (2016) examined the effect of eReferral on brand image, along with its direct effect on purchase intentions. The study found that eReferral's effect on brand image was significant. As a result, the proposed hypothesis was obtained:

H4: eReferral has a significant effect on brand image.

5. Brand Loyalty and Purchase Intention

In the context of social media marketing, brand loyalty influences the purchase intention. One of these studies investigated how firm-generated content influenced brand awareness, brand loyalty, eWOM and purchase intention (Poulis et al., 2019). The findings showed that brand loyalty had a positive and a significant influence on the consumers' purchase intention, with a stronger effect than either brand awareness or eWOM (the other direct measures in their model). Other authors have also found that brand loyalty had a positive relationship with purchase intentions. One of these studies investigated university students' skincare purchase intentions (Lee et al., 2019) as stated in the following hypothesis:

H5: Brand loyalty has a significant effect on purchase intention.

6. eWOM and Purchase Intention

The relationship between eWOM and the purchase intention was strongly supported in the previous literatures. In a study of Apple products, eWOM had a significant effect on the purchase intention (Abubakar et al., 2016). Another study, it conducted a case study of the MINI brand and showed that eWOM had a significant positive effect on the purchasing intention (Hutter et al., 2013). In another study, eWOM had a relatively small effect compared to other factors, but it was still a significant effect (Prasad et al., 2019). Thereby, the following hypothesis was set:

H6: eWOM has a significant effect on purchase intention.

7. Brand Image and Purchase Intention

Brand image explains the impression towards brands in the mind of customers which can be functional image or brand reputation (Plumeyer et al., 2019). The image of brand can be symbols, designs, color that customers recognized without being spoken (Surachman, 2008). Brand image ties with the mental and emotional state of mind among individuals (Ferrinadewi, 2008). Brand image is a favorably feeling toward the brand which significantly effect purchase intention of consumers. Thus, a hypothesis was proposed:

H7: Brand image has a significant effect on purchase intention.

8. eReferral and Purchase Intention

Another study, which investigated eReferral in the context of the tourism sector, had slightly different findings (Al-Htibat & Garanti, 2019). These authors, who examined interactive eReferral (in which a referral was provided live), found that eReferral did have a direct positive effect on the intention to visit the location, as well as an indirect effect through engagement (Al-Htibat & Garanti, 2019). An experimental study suggests that this relationship may depend on the level of incentivization (Ahrens et al., 2013). Thus, a hypothesis was proposed:

H8: eReferral has a significant effect on purchase intention.

9. Social Media Usage and Purchase Intention

The relationship of social media usage and purchase intention was investigated. This relationship is less supported in the literature than some of the others in the conceptual framework, but there is some empirical evidence for it. One of these studies was a study of online purchase intentions for Generation Y consumers (Prasad et al., 2019). The authors investigated social media usage in terms of how they use social media to communicate and interact with firms and brands. Their analysis showed that social media usage for the brand had a direct and positive effect on the purchase intention of the brand (Prasad et al., 2019). Hence, a hypothesis was derived:

H9: Social media usage has a significant effect on purchase intention.

10. Brand Awareness and Purchase Intention

The theoretical foundation of the study, especially the CDM, argues that brand awareness, or knowledge about the brand, is a necessary prerequisite for a brand to be included in the consumer's decision set (Blackwell et al., 2005; Bray, 2008). In other words, to form a purchase intention for a specific brand, the consumer needs to be aware of the brand (at a minimum). This is a very simple relationship, and one which has been investigated and confirmed in previous studies. A case study of MINI on Facebook showed that brand awareness had a significant positive effect on purchase intention (Hutter et al., 2013). As a result, a hypothesis was set:

H10: Brand awareness has a significant effect on purchase intention.

Research Methods and Materials

1. Research Framework

The research model was adopted based on four theories which are consumer decision model (CDM), Consumer Based Brand Equity (CBBE) Theory, Social Network Theory and Electronic Word of Mouth (eWOM) Theory. The conceptual framework of this research is shown in Figure 1.

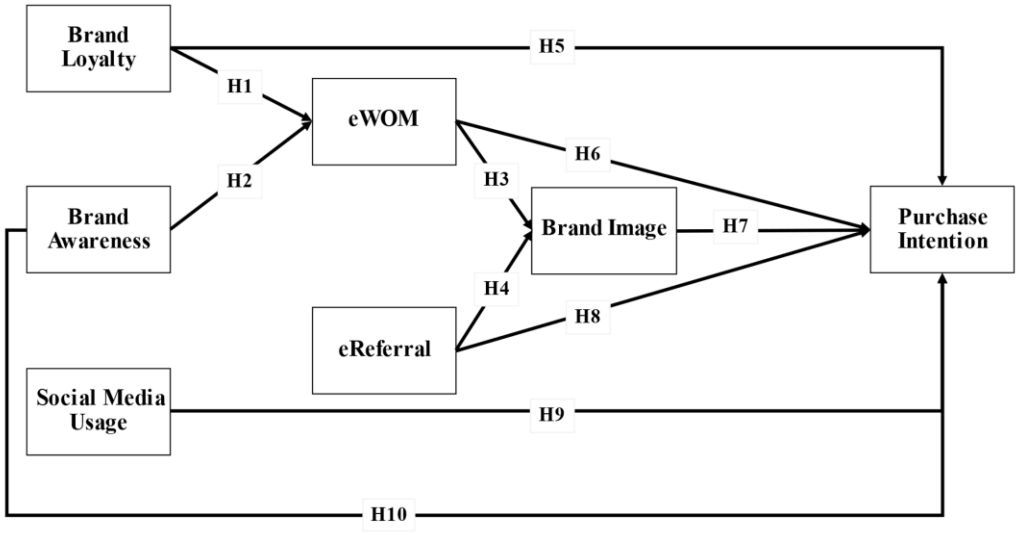

Figure 1 Conceptual Framework

The research aims to investigate the relationship among variables. Independent variables are brand loyalty, brand awareness, social media usage and eReferral. Dependent variables are eWom, brand image and purchase intention. Consequently, 7 variables and 10 hypotheses were proposed as a conceptual framework.

3.Methodology

The methodology used in this study is quantitative approach to distribute online questionnaires to 450 participants. The questionnaire has three parts, including (2) screening questions, (34) Five-point Likert scale items and (6) demographic questions.

Before the data collection, Item-Objective Congruence (IOC) validity was tested by three experts. Cronbach's Alpha (CA) reliability of 40 participants were accounted for a pilot study. IOC results were passed with all items are reserved at 0.60. Cronbach's alpha results were passed at value higher than 0.7 (Nunnally, 1967). Later, the questionnaire was distributed to the target group. The sampling technique was applied by using nonprobability sampling method, including purposive sampling, convenience sampling and snowball sampling. The data analysis was made to examine the normality of data, confirmatory factor analysis (CFA) and structural equation model (SEM), using SPSS and AMOS software.

4. Population and Sample Size

The population used in this research will be based on Millennials who were born between 1980 and 2000 and currently live in Chengdu. The recommended minimum sample size according to Soper (n.d.) is 425. However, this study aims to investigate factors affecting purchase intention of cosmetic products via social commerce platform. Therefore, the researchers consider minimum sample size of 450 participants.

5. Sampling Technique

This research applied nonprobability sampling technique in three steps. Firstly, purposive sampling is to select millennials who were born between 1980 and 2000 and currently live in Chengdu. Secondly, convenience sampling is used to distribute questionnaires via online platform such as Email, WeChat and Weibo. Lastly, snowball sampling is accounted by encouraging participants to promotes the survey to their peers. Additionally, this study applied multivariate statistics to examine at more than two variables (Tabachnick & Fidell, 2007).

Results and Discussion

1. Demographic Information

The demographic questions were set for better understanding of participants' characteristics in the third part of a questionnaire design. From Table 5.1, the demographic results were that most of the respondents were female, presenting 59.8%, while male was 40.2%. Most respondents were born between 1986 to 1990 in this study, followed by between 1980 to 1985, at 27.6%, between 1991 to 1995 at 21.8% and between 1996 to 2000 at 21.3%. For highest education, the majority group was bachelor's degree at 44.0%, followed by associate's degree, master's degree, diploma and below and doctorate's degree at 31.8%, 14.0%, 7.6% and 2.6% respectively. For working status, it showed the major group was full-time at 70.9%, followed by 15.8% of part-time, 6.9% of between jobs, and 6.4% of students. For the

last two demographic questions, there was choices that respondents could select more than one answer. For social medial platform used, it can be accumulated for the total of 1,380 responds from 450 participants. The results were 29.1% of WeChat, 28.8% of QQ, 26.7% of Red and 15.4% of others. Most of respondents from total responds of 1,217 have been using shopping platform of T-mall, showing 30.9%, JD of 28.6%, other of 21.6%, and PDD of 18.9%.

Table 1 Demographic Profile

Demographic Profile Data (N=450)		**Frequency**	**Percentage**
Gender	Male	181	40.2%
	Female	269	59.8%
Year of birth	1980-1985	124	27.6%
	1986-1990	132	29.3%
	1991-1995	98	21.8%
	1996-2000	96	21.3%
Highest Education	Diploma and below	34	7.6%
	Associate's degree	143	31.8%
	Bachelor's degree	198	44.0%
	Master's degree	63	14.0%
	Doctorate's degree	12	2.6%
Working Status	Between jobs	31	6.9%
	Student	29	6.4%
	Part-time	71	15.8%
	Full-time	319	70.9%
Social medial platform	WeChat	401	29.1%
	QQ	398	28.8%
	Red	369	26.7%
	Other	212	15.4%
	(Total responds = 1,380)		
Shopping platform used	T-mall	376	30.9%
	JD	348	28.6%
	PDD	231	18.9%
	Other	262	21.6%
	(Total responds = 1,217)		

Source: constructed by author

2. Confirmatory Factor Analysis (CFA)

The measurement model (CFA) was conducted prior to structural model (SEM) in order to ensure the accuracy and reliability of the data before testing relationship and hypotheses. The measurement model was measured using factor loading at 0.50 or above and p-values at 0.05 or less, composite reliability at 0.6 or above (Hair et al., 2006), and Cronbach's Alpha at 0.7 or above (Nunnally, 1967). Therefore, the values passed those criterions were adequate to confirm convergent validity and Average Variance Extracted (AVE) in this study (Fornell & Larcker, 1981) as shown in Table 2 and 3.

Table 2 Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source	Factors Loading (>0.50)	t-value	CR (>0.60)	AVE
Brand Loyalty (BL)	Poulis et al. (2019)	0.586-0.656	10.183*-10.983*	0.867	0.373
Brand Awareness (BA)	Poulis et al. (2019)	0.699-0.767	13.024*-13.843*	0.769	0.527
Social Media Usage (SM)	Prasad et al. (2019)	0.641-0.780	12.997*-15.893*	0.819	0.531
Electronic Word of Mouth (EWOM)	Abubakar et al. (2016)	0.648-0.737	12.179*-13.635*	0.849	0.485
Electronic Referral (ER)	Abubakar et al. (2016)	0.671-0.808	13.980*-14.083*	0.804	0.580
Brand Image (BI)	Hutter et al. (2013)	0.656-0.745	12.158*-13.512*	0.787	0.481
Purchase Intention (PI)	Abubakar et al. (2016)	0.669-0.820	13.270*-13.539*	0.769	0.529

Note: CR = Composite Reliability, AVE = Average Variance Extracted

* = Significant at the 0.05 significant levels ($p<0.05$)

Source: Created by the author

Table 3 The Value of Reliability Analysis of Each Construct in this Study (N=450)

Variable	Number of Items	Cronbach's Alpha (>0.70)	Strength of Association
Brand Loyalty (BL)	11	0.867	Good
Brand Awareness (BA)	3	0.765	Acceptable
Social Media Usage (SM)	4	0.818	Good
Electronic Word of Mouth (EWOM)	6	0.849	Good
Electronic Referral (ER)	3	0.801	Good
Brand Image (BI)	4	0.786	Acceptable
Purchase Intention (PI)	3	0.766	Acceptable

Source: Constructed by author

According to Fornell and Larcker (1981), discriminant validity was evaluated by computing the square root of each AVE. Based on this study, the value of discriminant validity is larger than all inter-construct/factor correlations, therefore, the discriminant validity is supportive. In addition, Multicollinearity's problem can be examined through correlation coefficient. the factor correlations in Table 4 did not surpass 0.80. As a result, the problem of multicollinearity is not issued (Studenmund, 1992).

Table 4 Discriminant Validity

	EWM	BL	BA	ER	SM	PI	BI
EWM	**0.696**						
BL	0.580	**0.611**					
BA	0.007	-0.031	**0.726**				
ER	-0.015	-0.017	0.567	**0.762**			
SM	-0.034	-0.068	0.666	0.608	**0.729**		
PI	0.013	0.026	0.495	0.557	0.507	**0.727**	
BI	0.511	0.601	-0.045	-0.047	-0.028	-0.004	**0.694**

Note: The diagonally listed value is the AVE square roots of the variables

CFA was evaluated by goodness of fit indices including CMIN/DF, GFI, AGFI, CFI, TLI, IFI and RMSEA and confirmed convergence validity and discriminant validity of this study. All estimates were acceptable with no required modification. Therefore, the convergence validity and discriminant validity were ensured as shown in Table 5.

Table 5 Goodness of Fit for Measurement Model

Index	Acceptable Values	Statistical Values Before Adjustment
CMIN/DF	< 3.00 (Hair et al., 2006)	(1045/506) = 2.065
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.864
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.840
CFI	≥ 0.85 (Kline, 2011)	0.914
TLI	≥ 0.85 (Kline, 2011)	0.904
IFI	≥ 0.85 (Kline, 2011)	0.914
RMSEA	< 0.08 (Pedroso et al., 2016)	0.049
Model summary		**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, CFI = comparative fit index, TLI = Tucker-Lewis index, IFI = Incremental Fit Index, and RMSEA = root mean square error of approximation

Source: constructed by author

3. Structural Equation Model (SEM)

SEM was applied to determine parameters in the observed variables and latent variables analysis and to confirm relationships among variables in this research (Jöreskog & Sörbom, 1993). SPSS AMOS was a tool to measure and modify the model of the good fit for structural equation model. As a result, all values meet its acceptable criteria per presented in Table 6.

Table 6 Goodness of Fit for Structural Model

Index	Acceptable Values	Statistical Values Before Adjustment	Statistical Values After Adjustment
CMIN/DF	< 3.00 (Hair et al., 2006)	(1616.094/517) = 3.126	(1189.454/497) = 2.393
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.813	0.869
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.785	0.843
CFI	≥ 0.85 (Kline, 2011)	0.824	0.889
TLI	≥ 0.85 (Kline, 2011)	0.809	0.875
IFI	≥ 0.85 (Kline, 2011)	0.825	0.890
RMSEA	< 0.08 (Pedroso et al., 2016)	0.069	0.056
Model summary		**Not in harmony with empirical data**	**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, CFI = comparative fit index, TLI = Tucker-Lewis index, IFI = Incremental Fit Index, and RMSEA = root mean square error of approximation

Source: constructed by author

The regression weights and R^2 variance confirmed significant support in this study as reported in Table 7 when p = 0.05. Brand loyalty had the strongest influence on electronic word of mouth at β = 0.824, followed by electronic word of mouth on brand image at β = 0.692, electronic referral on purchase intention at β = 0.508, brand awareness on purchase intention at β = 0.337, brand loyalty on purchase intention at β = 0.257, and social media usage on purchase intention at β = 0.250. There was no support in the relationship between brand awareness and electronic word of mouth, electronic word of mouth and purchase intention, electronic referral and brand image, and brand image and purchase intention.

Table 7 Hypotheses Testing Results of the Structural Model

Hypothesis	Standardized coefficient (β)	t-value	Test result
H1: Brand Loyalty (BL) => Electronic Word of Mouth (EWM)	0.824	10.259*	Supported
H2: Brand Awareness (BA) => Electronic Word of Mouth (EWM)	0.022	0.515	Not Supported
H3: Electronic Word of Mouth (EWM) => Brand Image (BI)	0.692	10.291*	Supported
H4: Electronic Referral (ER) => Brand Image (BI)	-0.049	-1.021	Not Supported
H5: Brand Loyalty (BL) => Purchase Intention (PI)	0.257	2.026*	Supported
H6: Electronic Word of Mouth (EWM) => Purchase Intention (PI)	-0.176	-1.202	Not Supported
H7: Brand Image (BI) => Purchase Intention (PI)	-0.023	-0.272	Not Supported
H8: Electronic Referral (ER) => Purchase Intention (PI)	0.508	8.152*	Supported
H9: Social Media Usage (SM) => Purchase Intention (PI)	0.250	4.625*	Supported
H10: Brand Awareness (BA) => Purchase Intention (PI)	0.337	5.739*	Supported

Note: *p<0.05

Source: Created by the author

The hypotheses testing results from Table 7 are concluded per followings:

H1: The standardized path coefficient between brand loyalty and electronic word of mouth was 0.824 (t-value = 10.259*). Thus, brand loyalty was confirmed the strongest effect on electronic word of mouth. As a result, H1 was supported.

H2: Brand awareness had no significant effect on electronic word of mouth as the standardized path coefficient was 0.022 (t-value = 0.515). Therefore, H2 was not supported.

H3: The standardized path coefficient between electronic word of mouth and brand image was supported at the value of 0.692 (t-value = 10.291*). Consequently, H3 was supported.

H4: There was no significant effect between electronic referral and brand image with the standardized path coefficient of -0.049 (t-value = -1.021). Thus, H4 had no support.

H5: Brand loyalty significantly affected purchase intention as the standardized path coefficient was 0.257 (t-value = 2.026*). Thereby, H5 was supported.

H6: The standardized path coefficient between electronic word of mouth and purchase intention was -0.176 (t-value = -1.202). Therefore, H6 was not supported.

H7: The standardized path coefficient between brand image and purchase intention was -0.023 (t-value = -0.272). So, H7 was not support.

H8: Electronic referral and purchase intention as the standardized path coefficient was 0.508 (t-value = 8.152*). Hence, H8 was supported.

H9: The standardized path coefficient between social media usage and purchase intention was 0.250 (t-value = -4.625*). Accordingly, H9 was supported.

H10: The standardized path coefficient between brand awareness and purchase intention was 0.337 (t-value = 5.739*). Subsequently, H10 was supported.

Conclusion and Implications

1. Conclusion

This study achieved its objectives to determine factors impacting purchase intention of cosmetic products via social commerce among Millennials in Chengdu, China. The variables were adopted from four theories, including consumer decision model (CDM), Consumer Based Brand Equity (CBBE) Theory, Social Network Theory and Electronic Word of Mouth (eWOM) Theory. The population and sample size were 450 participants. The quantitative method was applied nonprobability sampling method, including purposive sampling, convenience sampling and snowball sampling. The conceptual framework was developed with 7 latent variables and 10 hypotheses. Before the data collection, IOC validity and Cronbach's Alpha reliability were tested prior to the data analysis. Later, CFA was analyzed for factor loading, convergent validity, discriminant validity and goodness of fit. Finally, SEM was applied to confirm the casual relationships and hypotheses.

The findings revealed that that brand loyalty had the strongest effect on electronic word of mouth which also effected brand image. brand awareness, electronic referral, brand loyalty and social media usage significantly affected purchase intention. Nevertheless, there were no significant effect on the relationship between brand awareness and electronic word of mouth, electronic word of mouth and purchase intention, electronic referral and brand image and brand image and purchase intention.

2. Implications

The results signified the key influencers effecting purchase intention of cosmetic products via social commerce platform among Millennials in Chengdu. Therefore, the marketers can develop online sales and marketing strategies in accordance with significant relationships encouraging the positive electronic word of mouth and willingness to buy products. Both theoretical and practical implications are emphasized on proven significant factors per followings.

Brand loyalty and electronic word of mouth was the strongest support in this study. Therefore, the result was complied with previous studies that customers who have loyalty or love the brand would spread word of mouth electronically to their family and friends. Therefore, those people have a high potential to consider buying products and service or being prospective customers (Poulis et al., 2019; Eelen et al., 2017; Sijoria et al., 2018). In practices, marketers would focus on building loyalty program where customers could spread electronic of mouth such as reward programs, product review bonus and exclusive sales.

The significant relationship between electronic word of mouth and brand image was also supported by numerous studies (Abubakar et al., 2016; Kudeshia & Kumar, 2017; Kala & Chaubey, 2018; Sandes & Urdan, 2013; Chin & Lai, 2018; Ismagilova et al., 2019). In the digital era, consumers would seek for an electronic product review before making a purchase decision. The positive word of mouth can build a positive brand image. Marketers should supervise the social voice in order to ensure the

positive EWOM which reflects the brand reputation and should take charge quickly for any complaints made online to avoid harassing brand image.

The finding showed that brand loyalty had a significant effect on the consumers' purchase intention of cosmetic products on social platforms (Poulis et al., 2019; Lee et al., 2019; Khraim, 2011; Choi & Lee, 2019 which determined that customers who love the brand would select to purchase products and services accordingly. Marketer requires to ensure customer's retention and relationship in order to sustain sales revenue by building loyalty programs using discount, promotion and events.

The significant relationship between electronic referral and purchase intention confirmed that the strong referrals of current customers can dominate the purchase intention of other prospective customers as aligned with many previous literatures (Abubakar et al., 2016; Chin & Lai, 2018; Al-Htibat & Garanti, 2019; Ahrens et al., 2013). Therefore, marketers can create the referral program to provide incentives for purchase intention among online buyers (Ahrens et al., 2013; Fu & Pang, 2018).

The significant effect between social media usage and purchase intention was aligned with the result in this study (Prasad et al., 2019; Hutter et al., 2013). It is also known that the extent of social media usage influences the cosmetic brands that mostly advertise on social media (Chu et al., 2013). Brand awareness significantly affected purchase intention which was supported by many studies (Blackwell et al., 2005; Bray, 2008; Hutter et al., 2013; Poulis et al., 2019; Khan et al., 2015).

Brand awareness was also a significant factor in the purchase intention for skincare products (Lee et al., 2019; Malik et al., 2013). Marketers are recommended to pave the way to be the brand that customers are familiar with by using digital media such as website, e-newsletter, online advertisement and influencer marketing to reach the target group.

3. Limitation and Further Study

There are several limitations of this study. The study has a geographic limitation as it was only conducted in China. Since China has a distinct social media and e-commerce environment from the rest of the world, this may limit the generalization of findings outside this geographic scope. Secondly, the study is also restricted to Millennial consumers which is relevant to generalizing the findings, since Millennials have distinct patterns of consumption compared to older generational cohort (Moore, 2012). This is particularly true in terms of their use of interactive and social media, which is the heart of the present research. Finally, the topics investigated by the study are limited by variables which can be extended to other factors influencing purchase intention of online cosmetics such as perceived quality (product/service quality), performance expectancy (the performance of product serving as expected), social influence (influence from family and friends) and so on (Saunders et al., 2015).

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FACTORS AFFECTING STUDENT SATISFACTION IN ART EDUCATION OF THE SECONDARY SCHOOLS IN CHENGDU, CHINA

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ABSTRACT

The purpose of this study is to examine factors affecting student satisfaction towards trust among art students who are junior high school (grade 7-9) of secondary school in Chengdu, China. The conceptual framework is developed on how image, perceived value, service performance, positive affect, social environment has an influence on student satisfaction and trust. The population and sample size (n = 500) were gathered from online and offline questionnaires by using nonprobability sampling including judgmental sampling, quota sampling, convenience sampling and snowball sampling. Prior to data collection, Index of item-objective congruence (IOC) validity and Cronbach's Alpha reliability for pilot test of 50 participants were implemented. After the data collection, researcher accounted the Confirmatory Factor Analysis (CFA) to assess validity and reliability and Structural Equation Model (SEM) to test relationship among constructs and hypotheses and to confirm goodness-of-fit of the model. The results were that student satisfaction and trust had the strongest effect, followed by social environment, service performance, perceived value and image on student satisfaction, and image on perceived value. On the other hand, positive affect had no significant effect on student satisfaction. Academic practitioners were recommended to focus on building high level of student satisfaction and trust by ensuring good social environment and facilities, high service standard, promoting school image properly and communicating efficiently to students and their parents.

Keywords: Image, Perceived Value, Service Performance, Positive Affect, Social Environment, Student Satisfaction, Trust

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1. Introduction

The modern art education in China have been developed at all levels since the late Qing Dynasty, the last imperial dynasty of China, governing during 1644 to 1912. The Qing Dynasty, with its three centuries of modern Chinese development before the Ming Dynasty, was later succeeded by the Republic of China and had prospered traditional arts and innovations which include literacy, modernization of cities and lucrative publishing industry (Lumen, n.d.). Art education plays important role in Chengdu, China as the city has been renowned as a center of art and history since Qing Dynasty until present days. People who seek for art education and career mostly select Chengdu city as a learning destination. Art education can stimulate students' physical and mental quality (Li & Hu, 2009).

Learning satisfaction can influence student's learning outcomes which is derived from the equality, quality and the understanding and implementation of the art education policy which can be formed as education system, study's curriculum, teaching materials and student services both inside and outside classroom. There are three problem statements explained (Yang, 2014). Firstly, there are inequality in basic education (i.e., primary and secondary education) in China which includes urban-rural inequality, regional inequality, and gender inequality. Secondly, as China has the largest population in the world, the quality of the educational system, curriculum and services for students is low which cannot assure the high level of student's satisfaction. Thirdly, the understanding and implementation of the art education policy promulgated by the government are not enough (Zhao et al., 2020).

The importance of study clearly states the contribution of this study, referring academic knowledge in the field of education and management. Art education in secondary school is an important part of basic education in China which was used as a sample of interest in this study (Yang, 2014). Key determinants that affect student satisfaction and trust were examined which includes image, perceived value, service performance, positive affect and social environment. The results of this study potentially benefit to the society considering that student satisfaction and trust play as key indicator to nurture the development of art education in China. Hence, Chinese government, academic practitioners and educators are recommended to find the solutions for the problem statement to assure equality, quality and the understanding and implementation of the art education policy which can be formed as educational system, study's curriculum, teaching materials and student services.

2. Literature Review

The literature reviews are narrated to clarify the previous studies and terms for a conceptual framework development of this study.

2.1. Image

Image is conceptualized by rational and emotional interpretation and that comprises cognitive elements, the beliefs, the affective aspects and the feelings (Arpan et al., 2003). Subsequently, there are two components of overall image which includes the cognitive component and the affective image (Alves & Raposo, 2010). In the educational context,

the cognitive component relates to school or university image that have an impact on the affective component which can be implied as the influence of student satisfaction.

2.2. Perceived Value

Khalifa (2004) features perceived value as the customer's overall evaluation of the product/service (or facility)'s usefulness based on opinion of what the estimation is granted (Lindgreen & Wynstra, 2005). Perceived value of pricing is a customer-first method that puts the valuation of the shop, computation, antagonism and other deliberation (Kartono & Rao, 2009). The perspective of students in perceived value is the overall appraisal of using the service in accordance with their perception on what is received rather than what is offered. The value of education service pursues students in learning (Sanchez-Fernandez & Iniesta-Bonillo, 2006).

2.3. Service Performance

Service is an intangible activity and does not incur any ownership granted by any party. It is an activity in which a service provider offers to a customer to meet their needs (Kotler et al., 2009). In term of performance, it is a pattern of capability, effort and opportunity that can be measured (Andreani & Wijayanty, 2014). University or school performance can be implied as additional services apart from basic academic services. The support services are essential for a key decision maker such as parents or students to consider the ability to complete their academic objectives. Service performance of institution is one of the competitive advantages (Meng & Kevin, 2008).

2.4. Positive Affect

The definition of positive affect is a reproduction of the degree to which an individual is passionate, vigorous and impactful. (Selnes & Grønhaug, 2000; Szymanski & Henard, 2001). Positive impact reflects a participant's level of joyful contact with the ecosystem, described by sensation of eagerness, happiness, pride, affection, great vigor, and attention (Miller, 2011). Individuals with positive moods were likely to process information less systematically, but more creatively and flexibly than those with negative moods (Park, 2002). Thus, if students feel good about a specific institution, they render a positive measurement (Schwarz, 2001). When students feel unpleasure or dislike, they tend to express negative reaction or denial to take the program (Barsade & Gibson, 2007).

2.5. Social Environment

Gruber et al. (2010) mentioned that the social environment of students is based on a relatively stable relationship between people and the physical environment. In organizational context, senior management cultivates and creates a positive social environment that will gain the support from workers (Goodwin, 2003). Social environment refers to social networks or relationships between individuals living in a given context (i.e., neighborhood, school) that may affect individual behaviors (McNeill et al., 2006). Social environments comprise of the physical surroundings, social relationships, and cultural backgrounds within groups that people perform and interact.

2.6. Student Satisfaction

Satisfaction refers to individuals' positive assessment of their experiences during their

interaction with product, service or business transaction (Andreani & Wijayanty, 2014). Satisfaction is defined as the evaluation by customers of a favorable response, related to emotional states that stimulates attention on specific objects and may influence ongoing behavior (Shahsavar & Sudzina, 2017). Student satisfaction is defined as the student's positive evaluation of the results and experiences related with the education granted, and such satisfaction is ongoing reinforced by the repeated experiences in school life (Elliott & Shin, 2002).

2.7. Trust

Trust describes the relationship concept of loyalty as multiple purchases over a relatively long period of time driven by positive opinion (Medina & Rufín, 2015). The concept of trust is the faith that the promises made by one party are true and dependable, and that the other party will achieve its contract in a relationship involving conversation (Nunkoo et al., 2012). In the context of advanced learning, students' trust is mentioned as a faith and a confidence in the integrity and certainty of school or university performance (Blind, 2007). Trust is a key part of the connection structure and is considered as a forerunner to commitment of the company.

3. Research Hypotheses

3.1. Image and Perceived Value

Image reflects reputations, credibility and message to the target customer whereas perceived value signifies the quality of product or service. Image has a significant impact on perceived value and both variables independently affect satisfaction. (Shahsavar & Sudzina, 2017). Likewise, the institution's image has a positive effect on perceived value. The university or school has a good brand image, it relatively attracts parents or new students to choose for admission because they perceive its value (Shahsavar & Sudzina, 2017). Thus, the inclusion of image is presented as a dimension in the research model that evidenced image positively impacts perceived value (Collins-Dodd & Lindley, 2003). Thus, a hypothesis was derived:

H1: Image has a significant effect on perceived value.

3.2. Image and Student Satisfaction

Student satisfaction as a procedure that grants institutions to measure the impact of brand image has on satisfaction. There is a consensus of corporate image and satisfaction. Numerous empirical studies have confirmed the relationship between image and satisfaction (Helgesen & Nesset, 2007; Shahsavar & Sudzina, 2017; Alves & Raposo, 2010). In educational context, the strategic planning and investment are required to enhance school/university image that has an influence on student satisfaction (Alves & Raposo, 2010). Such plan and strategy can be reputation, orientation and preparation of students, ease of entrance, quality of graduates and so on in attempt to promotes affective components towards target group (Shahsavar & Sudzina, 2017). The theoretical relationship was derived to determine a hypothesis:

H2: Image has a significant effect on student satisfaction.

3.3. Perceived Value and Student Satisfaction

School service is perceived as value of fulfillment that generates satisfaction. It is important that institution considers planning and designing academic and additional

service to meet the needs of students (Shahsavar & Sudzina, 2017). The values or benefits that student perceived are time and personal resources in the trade off on future education or career achievement. Institution should assess the value or quality to ensure adequate level, in a return of student's satisfaction (Alves, 2011). Woodall (2003) posted that perceived value has a positive relationship with satisfaction because customer anticipates value and quality before making purchase decision, then, he or she can evaluate the performance which associate to favorable attitude or satisfaction (Hamid, 2013). Hence, the following hypothesis was set:

H3: Perceived value has a significant effect on student satisfaction.

3.4. Service Performance and Student Satisfaction

Service performance is important to student's evaluation whether quality meet the expectation that generates satisfaction (Chahal & Kumari, 2012; Anning-Dorson, 2018; Shahsavar & Sudzina, 2017). In an academic setting, the quality of service has been applied to measure student's satisfaction of college/university. Satisfaction survey is usual way to assess the service quality which can provide valuable information and insights for improvement. Therefore, the positive relationship between service performance and student's satisfaction exists (Vickery et al., 2008; Tilokavichai et al., 2012). Subsequently, H3 was obtained:

H4: Service performance has a significant effect on student satisfaction.

3.5. Positive Affect and Student Satisfaction

Zeidner et al. (2012) cited that positive affect plays mediating role among emotional intelligence and satisfaction. Positive affect significantly promotes high level of satisfaction, which brings long -run benefits (Salovey et al., 2000; Sánchez-álvarez et al., 2016). Positive affect involves affective and satisfied experience of individuals (Eid & Larsen, 2008). It ties to the pleasant emotion such as happy, lively, joyful etc., which leads to satisfaction and positive behavior (Kuppens et al., 2008). Telef et al. (2015) claimed that positive affect directly impacts school and life satisfaction of students. Positive affect is the emotional state, subjected to individual's well-being, which enables positive school events to be raised by boosting interpersonal collaborations, managing with academic activities, flexibility and accountability and school-associated practices (Lewis et al., 2009). Thereby, H5 was formulated as:

H5: Positive affect has a significant effect on student satisfaction.

3.6. Social Environment and Student Satisfaction

Social environment for student is similar to social support and learning environment (Kong et al., 2019). Salovey et al. (2000) attested that social environment positively links student's satisfaction in their campus life. The richer social network presents the greater level of student's well-being. The positive relationship between learning environment and satisfaction of students has been affirmed by many researchers (Perera & DiGiacomo, 2015; Kong et al., 2019; Schröder-Abé & Schütz, 2011). The perseverance of social life effects the higher sense of student's satisfaction (Koydemir et al., 2013). The relationship between social environment and student's

wellbeing is found to be correlated per the report of Tapia-Fonllem et al. (2020). The theoretical relationship was derived to determine a hypothesis:

H6: Social environment has a significant effect on student satisfaction.

3.7. Student Satisfaction and Trust

Satisfaction has been related to trust development of individuals and this linkage tends to be recursive (Medina & Rufín, 2015). Thong et al. (2006) mentioned that some research determined trust as an antecedent of satisfaction. The study of Leninkumar (2017) reported that customer's overall satisfaction with the purchasing experience positively effects his or her trust of the service provider. Trust can be obtained by brand image or quality of product/service which encourages customers to make purchase (Chih-Chung et al., 2012). Thus, the capability to build customer trust is essential. Trust presents when one party feel confident to exchange other party reliability and accountability (Blind, 2007). Trust arouses willingness to purchase, resulting with satisfaction. Bairamzadeh and Bolhari (2010) confirmed that students' trust had a positive influence on their satisfaction. Thus, a hypothesis was proposed:

H7: Student satisfaction has a significant effect on trust.

4. Research Methods and Materials

4.1. Research Framework

The conceptual framework was adopted based on five previous research models. Firstly, Shahsavar and Sudzina (2017) adapted the European Performance Satisfaction Index (EPSI) to examine the direct impact of university's image on the expectation of students. Secondly, Mustafa et al. (2012) identified the antecedents to student satisfaction towards promotion by proposing a student satisfaction model. Thirdly, Kong et al. (2019) investigated the perceived social support and affective experience which include positive and negative affect, associated with emotional intelligence and life satisfaction. Next, Appuhamilage and Torii (2019) examined the effect of loyalty on satisfaction among students in higher education, using SEM approach to test the relationship of perceived value, financial support, environment, service, internationalization, facility, image on satisfaction. Lastly, Medina and Rufín (2015) analyzed the efficacy of the transparency policy deployed by higher educational institutes which has an influence on student satisfaction and trust. As a result, the conceptual framework of this study is developed as in Figure 1.

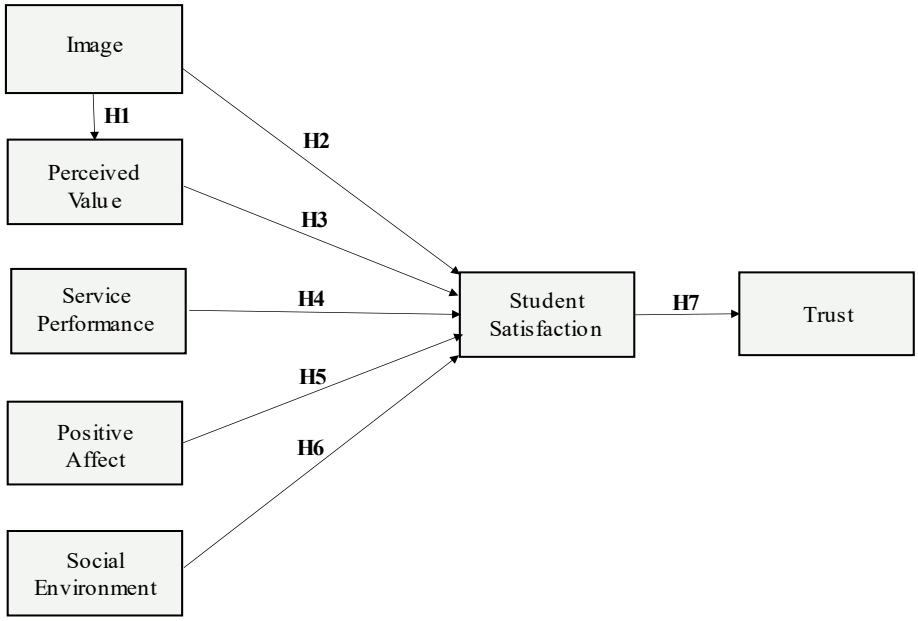

Figure 1 Conceptual Framework

The conceptual framework is developed on how image, perceived value, service performance, positive affect, social environment has an influence on student satisfaction and trust. Therefore, 7 variables and 7 hypotheses were proposed.

4.2. Methodology

The research methodology used is quantitative approach to distribute offline and online questionnaires to 500 participants. The questionnaire was designed in three parts. Firstly, screening questions were used to qualify the target group. Secondly, 5-point Likert Scale was applied to measure items used in this study. Lastly, the demographic questions were used to interpret the characteristics of the sample group. The questionnaire was also translated to Chinese for the best understanding among Chinese participants.

Before collecting the data, Item Objective Congruence (IOC) validity test with three experts' rating and Cronbach's Alpha reliability pilot test of 50 participants were deployed. IOC results showed that twelve items were removed out of the questionnaire from the total of 43 to 31 items. The acceptable value of alpha coefficient for each structure must be greater than or equal to 0.60 (Sekaran, 1992), resulting 31 items reserved. Later, the questionnaire was distributed to the target group. The sampling technique was applied by nonprobability sampling including judgmental sampling, quota sampling, convenience sampling and snowball sampling. The data analysis was ensured the normality of data and was proceeded to confirmatory factor analysis (CFA) and structural equation model (SEM), using SPSS and AMOS statistical software.

4.3. Population and Sample Size

The target population of this study was students who are studying art education in junior high school (grade 7-9) in three secondary schools namely, Chengdu Pidu District No.1 Middle School (PDN1), Chengdu Shuangliu Yiti Middle School (SLYT) and Chengdu Shishi Shudu Middle School (SDMS) in Chengdu, Sichuan province, China. After inputting all necessary information into the statistical software of Soper (n.d.), the expected effect size (0.2), the expected level of statistical power (0.8), the number of latent variables (7), the number of observed variables (31), and the probability scale (0.05), the recommended minimum sample size showed 425. However, the researchers consider sample size of this study to be 500 participants.

4.4. Sampling Technique

The sampling techniques were employed, using nonprobability sampling method. Firstly, the judgmental sampling is accounted to selecting art students in three secondary schools in Chengdu, China. Secondly, quota sampling was applied to calculating ratio from total students at each school (Table 1). Convenience sampling was used for the third step for the survey distribution via offline and online channels. Lastly, the snowball sampling was accounted to encourage students to refer and share with their peers.

Table 1 Quota Sampling by Three Secondary Schools in Chengdu

School's Name	Total Students in Secondary School	Junior High School (Grade 7-9)	Percentage
Chengdu Pidu District No.1 Middle School (PND1)	2930	247	50%
Chengdu Shuangliu Yiti Middle School Chengdu (SLYT)	2211	186	37%
Shishi Shudu Middle School (SDMS).	798	67	13%
Total	**5939**	**500**	**100%**

5. Results and Discussion

5.1. Demographic Information

The demographic results were shown as most of the participants were female, presenting 62.4.% (312), whereas male was 37.6% (188). For the class year, the majority was grade 9 at 40.6% (203), followed by grade 8 at 37.2% (186), and grade 7 at 22.2% (111).

5.2. Confirmatory Factor Analysis (CFA)

CFA was used prior for analyzing the measurement model with structural equation model (SEM). The result of CFA indicated that all items in each variable were significant and had factor loading to prove discriminant validity. Guidelines recommended by Hair et. al. (2006) is also employed in defining the significance of factor loading of each item and acceptable values in defining the goodness of

fit. Factor loadings were higher than 0.50 and p-value of lower than 0.05. Furthermore, in case of Average Variance Extracted (AVE) was less than 0.5 but Composite Reliability (CR) was higher than 0.6, the convergent validity of the construct was still adequate (Fornell & Larcker, 1981) as shown in Table 2 and 3.

Table 2 Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source	Factors Loading (>0.50)	t-value	CR (>0.60)	AVE
Image (IM)	Teeroovengadum et al. (2019)	0.681-0.712	13.317*-13.844*	0.823	0.481
Perceived Value (PV)	Dlacic et al. (2014)	0.658-0.761	13.061*-14.667*	0.802	0.504
Service Performance (SP)	Rank et al. (2007)	0.642-0.754	12.357*-13.584*	0.827	0.490
Positive Affect (PA)	Brennan et al. (2006)	0.735-0.815	16.821*-18.946*	0.884	0.604
Social Environment (SE)	Beatton & Frijters (2012)	0.651-0.721	12.592*-12.949*	0.789	0.483
Student Satisfaction (SS)	Teeroovengadum et al. (2019)	0.595-0.742	11.200*-13.303*	0.806	0.455
Trust (T)	Medina & Rufín (2015)	0.826-0.860	21.692*-22.136*	0.880	0.709

Note: CR = Composite Reliability, AVE = Average Variance Extracted

* = Significant at the 0.05 significant levels ($p<0.05$)

Source: Created by the author

Table 3 The Value of Reliability Analysis of Each Construct in this Study (N=500)

Variable	Number of Items	Cronbach's Alpha (>0.60)	Strength of Association
Image (IM)	5	0.822	Good
Perceived Value (PV)	4	0.801	Good
Service Performance (SP)	5	0.826	Good
Positive Affect (PA)	5	0.883	Good
Social Environment (SE)	4	0.787	Acceptable
Student Satisfaction (SS)	5	0.803	Good
Trust (T)	3	0.879	Good

Source: Constructed by author

According to Fornell and Larcker (1981), testing for discriminant validity was evaluated by computing the square root of each AVE. Based on this study, the value of discriminant validity is larger than all inter-construct/factor correlations, therefore, the discriminant validity is supportive. The convergent and discriminant validity were proved;

Consequently, the evidence is sufficient for establishing construct validity as exhibited in Table 4.

Table 4 Discriminant Validity

	SS	IM	PV	SP	PA	SE	T
SS	**0.674**						
IM	0.421	**0.694**					
PV	0.438	0.180	**0.710**				
SP	0.538	0.471	0.374	**0.700**			
PA	-0.036	-0.020	-0.035	-0.060	**0.777**		
SE	0.509	0.474	0.254	0.561	-0.049	**0.695**	
T	0.570	0.449	0.274	0.456	-0.015	0.538	**0.842**

Note: The diagonally listed value is the AVE square roots of the variables

CFA was tested using the fit model including CMIN/DF = 2.065, GFI = 0.864, AGFI = 0.840, NFI = 0.914, CFI = 0.904, TLI = 0.914, and RMSEA = 0.049. All estimates were acceptable with no model adjustment required. Therefore, the convergence validity and discriminant validity were ensured. All results are shown in Table 5.

Table 5 Goodness of Fit for Measurement Model

Index	Acceptable Values	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2006)	(1045/506) = 2.065
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.864
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.840
NFI	≥ 0.80 (Wu & Wang, 2006)	0.914
CFI	≥ 0.80 (Bentler, 1990)	0.904
TLI	≥ 0.80 (Sharma et. al., 2005)	0.914
RMSEA	< 0.05 (Browne & Cudeck, 1993)	0.049
Model summary		**In harmony with empirical data**

Remark: 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

Source: constructed by author

5.3. Structural Equation Model (SEM)

According to Jöreskog and Sörbom, (1993), SEM was used to test relationships among constructs and hypotheses in this study. SPSS AMOS was used to verify the model fit for a structural model. Consequently, all values were acceptable as shown in Table 6.

Table 6 Goodness of Fit for Structural Model

Index	Acceptable Values	Statistical Values Before Adjustment	Statistical Values After Adjustment
CMIN/DF	< 3.00 (Hair et al., 2006)	1013.176/427 = 2.373	926.690/418 = 2.217
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.884	0.893
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.865	0.872
NFI	≥ 0.80 (Wu & Wang, 2006)	0.855	0.868
CFI	≥ 0.80 (Bentler, 1990)	0.910	0.922
TLI	≥ 0.80 (Sharma et. al., 2005)	0.902	0.913
RMSEA	< 0.05 (Browne & Cudeck, 1993)	0.052	0.049
Model summary		**Not in harmony with empirical data**	**In harmony with empirical data**

Remark: 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

Source: constructed by author

The regression weights and R^2 variance verified significant relationship as displayed in Table 7 when p is equal to 0.05. Student satisfaction had the strongest effect on trust at β = 0.661, followed by social environment on student satisfaction at β = 0.409, service performance on student satisfaction at β = 0.349, perceived value on student satisfaction at β = 0.334, image on student satisfaction at β = 0.246, and image on perceived value at β = 0.204. There was no support in the relationship between positive affect and student satisfaction at β = 0.000.

Table 7 Hypotheses Testing Results of the Structural Model

Hypothesis	Standardized coefficient (β)	t-value	Test result
H1: Image has a significant effect on Perceived Value	0.204	3.646*	Supported
H2: Image has a significant effect on Student Satisfaction.	0.246	4.717*	Supported
H3: Perceived Value has a significant effect on Student Satisfaction.	0.334	6.031*	Supported
H4: Service Performance has a significant effect on Student Satisfaction.	0.349	6.219*	Supported
H5: Positive Affect has a significant effect on Student Satisfaction.	0.000	0.003	Not Supported
H6: Social Environment has a significant effect on Student Satisfaction.	0.409	6.839*	Supported
H7: Student Satisfaction has a significant effect on Trust.	0.661	9.750*	Supported

Note: *p<0.05

Source: Created by the author

The results of hypotheses testing are explained per Table 7 as below:

H1: The standardized path coefficient between image and perceived value was 0.204 (t-value = 3.646*). Hence, school image was confirmed to have a significant effect on perceived value. Accordingly, H1 was supported.

H2: Image had a significant effect on student satisfaction as the standardized path coefficient was 0.246 (t-value = 4.717*). Thus, H2 was supported.

H3: The standardized path coefficient between perceived value and student satisfaction was supported at the value of 0.334 (t-value = 6.031*). Thereby, H3 was supported.

H4: There was a significant effect between service performance and student satisfaction with the standardized path coefficient of 0.349 (t-value = 6.219*). Subsequently, H4 was supported.

H5: Positive affect had no significant effect on student satisfaction as the standardized path coefficient was 0.000 (t-value = 0.003). By this means, H5 was not supported.

H6: The standardized path coefficient between social environment and student satisfaction was 0.409 (t-value = 6.839*). Therefore, H6 was not supported.

H7: The standardized path coefficient between student satisfaction and trust had the strongest effect at 0.661 (t-value = 9.750*). So, H7 was supported.

6. Conclusion and Implications

6.1. Conclusion

The research objectives were accomplished to examine factors affecting student satisfaction towards trust in among art students who are junior high school (grade 7-9) of secondary schools in Chengdu, China. The results were that student satisfaction and trust had the strongest effect, followed by social environment on student satisfaction, service performance on student satisfaction, perceived value on student satisfaction, image on student satisfaction, and image on perceived value. On the other hand, there was no support in the relationship between positive affect and student satisfaction.

6.2. Implications

The findings can be implied in the combination of theories and practices to further develop academic fundamental structure to be able to increase the level of satisfaction and trust among students. Firstly, as student satisfaction had the strongest effect on trust, academic practitioners could consider surveying the level of student satisfaction regularly to receive feedback on what educational institutes should be improved to achieve the student satisfaction. Also, the compliance and transparency should be communicated clearly to their parents to build a high level of trust (Medina & Rufín, 2015; Thong et al., 2006; Leninkumar, 2017; Chih-Chung et al., 2012; Bairamzadeh & Bolhari, 2010). Secondly, social environment plays a key role to build student satisfaction (Perera & DiGiacomo, 2015; Kong et al., 2019; Schröder-Abé & Schütz, 2011). Therefore, a school should maintain its facilities, staffs and services to ensure that parents and students were highly satisfied. In practical, this goal can be achieved with well-maintenance building, teachers and staff training and parental meetings. Thirdly,

service performance significantly affected student satisfaction (Chahal & Kumari, 2012; Anning-Dorson, 2018; Shahsavar & Sudzina, 2017). Thus, school service staffs including management team, teachers and administrators are required to perform in professional manners with high level of service standard and ensure effective communications. The service performance survey can be collected to measure the satisfaction among students and their parents. Next, perceived value was clearly significant to student satisfaction (Shahsavar & Sudzina, 2017; Alves, 2011; Woodall, 2003; Hamid, 2013). Hence, a school is enquired to manage the learning curriculum as well as other additional activities to assure the effective learning among students. Fifthly, school image is attained when the management promotes positive activities and core values to the community (Helgesen & Nesset, 2007; Shahsavar & Sudzina, 2017; Alves & Raposo, 2010). Lastly, image had a significant effect on perceived value (Shahsavar & Sudzina, 2017; Collins-Dodd & Lindley, 2003) which attracts prospective students to join the school.

6.3. Limitation and Further Study

There are three limitations in this research which can be further extended in the future study. Firstly, the population and sample used in this study merely target students in secondary school in Chengdu China. The different regional area or higher education in China potentially produces different findings. Secondly, the variables can be further extended such as social support, university performance, promotion and loyalty. Thirdly, this research only focuses on quantitative methodology for the data collection. Qualitative approach can be expanded for better insights, which includes interview or focus group.

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FACTORS INFLUENCING THE INDUSTRIAL PURCHASE INTENTION OF RUBBER CHEMICALS FOR THE MANUFACTURING FIRMS IN RUBBER INDUSTRY

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ABSTRACT

As Thailand is one of the hubs for the world's leading car manufacturers and the strategic location for the world's leading tire manufacturers and other rubber products, fierce competition can be expected in the rubber chemical market in order to meet the needs and attract more manufacturing firms as their customers. Studying how factors influence the industrial purchase intention of rubber chemicals becomes crucial to adapt business strategies. This research then studies factors influencing the purchase intention of rubber chemicals for the rubber industry, an industrial market (business-to-business or B2B) in Thailand. The existing researches focus mostly on understanding a consumer market (business-to-consumer or B2C). Given that consumers in these two markets have different buying behavior, a better understanding of how different factors impact the industrial purchase intention will provide a competitive advantage to businesses in the market. This paper employs multiple regression analysis to investigate the relationship between independent variables (brand awareness, value for money, quality, after-sales services, country of origin, supply ability, perceived economic situation, and firm performance) and a dependent variable (purchase intention). The result shows that value for money, after-sales services, supply ability, and firm performance were positively significant towards the purchase intention. Based on the results, the following suggestions are made. To increase sales, the suppliers must have good knowledge to give advice to the customers, especially during the after-sale. Supply continuity and flexibility are very crucial in this market given many stakeholders are involved along the supply chain. Therefore, good teamwork in a company is necessary to manage the supply chain and create supply security in the mind of the customers.

Keywords: Rubber Chemicals, Rubber Industry, Industrial Market, Business-to-Business, Industrial Purchase Intention

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Introduction

Thailand is one of the hubs for the world's leading car manufacturers, and also the strategic location for the world's leading tire manufacturers and other rubber products including industrial and non-industrial products (Thailand Board of Investment, 2016). One of the main raw materials for the industry is rubber chemicals as they are used to process the rubber to a wide range of products such as vehicle tires, automotive rubber parts, industrial rubber parts, other rubber products, belt products, and concentrated latex-based products (Weerathamrongsak & Wongsurawat, 2013). In addition, with an increase in both the global demand for natural rubber from various industries and the global production of natural rubber with a compound annual growth rate (CAGR) of 5.0% during the forecast period of 2022 - 2027 (Natural Rubber Market, 2022), an increase in the usage of rubber chemicals from the manufacturing firms is expected. At the same time, Thailand is implementing the new economic model, namely 'Thailand 4.0', to promote stability, sustainability, and prosperity (Thailand Board of Investment, 2016) for its economy. It is unavoidable for the manufacturing firms to adapt their business strategy and operations to this economic development. One of the key strategies the manufacturing firms aim for is to use adequate rubber chemicals, in terms of quality, price, and continuous supply, to improve and increase their production in a sustainable way, such as lowering the scrap or waste of finishing products and reducing any kind of pollutions from the production. Therefore, for the rubber chemical suppliers and distributors, fierce competition can be expected in the rubber chemical market in order to meet the needs and attract more manufacturing firms as their customers. Studying how marketing factors (e.g. brand awareness, quality, after-sales service) influence the industrial purchase intention of rubber chemicals for these manufacturing firms becomes crucial to adapt their business strategies.

Moreover, as Thailand does not have local rubber chemical suppliers, rubber chemicals are imported from all over the world, mainly from China, Japan, and Germany (TechSci Research, n.d.), and enter into Thai market through local distributors. Any changes in the world economic situation can therefore impact the production availability, how the manufacturing firms perceive the condition of the economy, and how the economy affects performance of the manufacturing firms which in turn affect their buying decision on rubber chemicals for the business operations. For instance, in 2017, the Chinese government decided to shut down many rubber chemical factories and impose strict environmental standards resulting in the sudden increase in price level and the supply tightness (Tan, 2018). As China is the main supplier of rubber chemicals, the incident put a lot of concerns on both tire manufacturers and other rubber manufacturing firms to secure rubber chemicals and ("Why is Tire Production and Marketing in a Favorable Situation but Generating Few Profits?", 2017). Therefore, in the context of rubber industry in Thailand, economic factors (e.g. perceived economic situation, supply ability) also play an important role in gaining better understanding on purchase intention of rubber chemicals in the rubber.

In literature, many studies focus on consumer markets while the research regarding factors towards industrial purchase intention is very limited (Bendixen, Bukasa, & Abratt, 2004; Hinterhuber & Hinterhuber, 2012; Mudambi, 2002; Walley, Custance, Taylor, Lindgreen, & Hingley, 2007; Yuan, Moonm Wang, Yu, & Kim, 2021). Given that consumers in these two markets have different buying behavior, a better understanding of how different factors impact the industrial purchase intention will provide a competitive advantage to businesses in the market. As the industrial

market becomes more competitive and customers change their aims, sellers must adapt to the current situation and need to satisfy the customers' demands. Without in-depth research, it is difficult for the suppliers and distributors to understand the behavior of the buyers or manufacturing firms as purchase intention is a complex and dependent variable. The study therefore aims to investigate what factors the buyers of rubber chemicals are looking for and how the sellers should adapt and prepare for this kind of market situation. The findings from this study can then be used to understand and guide both suppliers and distributors on how to improve their decision-making processes to satisfy the manufacturing firms in the rubber industry in Thailand. Moreover, the findings can be applied in other industrial markets that might be experiencing a similar situation as the rubber chemical market as well and provide additional empirical evidence on industrial purchase intention.

Objectives of the study

1. To identify the significant factors the influence industrial purchasing intention of rubber chemicals.
2. To provide managerial insights and suggestions to both raw material suppliers and distributors to satisfy the manufacturing firms in rubber industry in Thailand.

Literature review

There are many types of business transactions in the business system, such as B2B (business-to-business) and B2C (business-to-consumer). In the industrial marketing, B2B is the main activity which consists of a significant amount of share in many countries (Hinterhuber & Hinterhuber, 2012). Walley et al. (2007) indicated that industrial markets were also different from consumer markets in several dimensions. In the industrial market, there are fewer but larger buyers, and a lot of people are involved in the buying process in order to approve the raw material to be used in the production line. Thus, closer buyer-seller relationships are required because the products often need customizing based on customers' needs. Moreover, buying decision process is rational and requires extended negotiation, but, once everything falls into place, buying is negotiated less frequently. Unlike industrial markets, consumer markets have massive amounts of buyers. Thus, the products tend to be mass-produced and the transactions are smaller and shorter with less complex processes (Hinterhuber & Hinterhuber, 2012). Therefore, to understand both markets, the types of product need to be discussed. Industrial product is defined as "products used in manufacturing that are not market to the general consuming public" (Mudambi, Doyle, & Wong, 1997, p. 435) and is used in the production of other goods. Consumer product, in contrast, is the goods for the consumption of the end consumer. Since these two markets having two different kinds of products are very distinct from each other, the factors influencing purchase intention should also affect differently.

Moreover, as explained by Syed Alwi, Nguyen, Melewar, Loh, & Liu (2016) and Yuan et al. (2021), due to the evolution and the transformation of the B2B markets in terms of technological advancement, faster and larger amount of information exchange, and the new supply chain management, B2B markets encountered with an increase in competitive pressure. Moreover, every firms were utilizing the same strategy with various cost reduction either in their production or technology. This is the same case for manufacturing firms in the rubber industry in Thailand. Thus, the strategy reduces the gap between firms regarding their differentiation. Therefore, in order to gain sustainable competitive advantage for B2B firms, they need to keep differentiate their products and services from their competitors, not only the tangible features but also intangible features (Mudambi et al., 1997;

Bendixen et al., 2004; Syed Alwi et al., 2016).

This paper explored the industrial market, specifically rubber chemicals for the rubber industry, because this is a very niche market. In addition, not only Thailand is the number one exporter of natural rubber, it also has many rubber-related manufacturing firms of many sizes. However, there was no research on the purchase intention of the rubber chemicals and very limited research in the industrial market in Thailand. One of the researches that can be found is the purchase decision for Chinese PVB film (Lin, 2014). The only research that was related rubber industry was about the past achievements and future prospects of rubber industry in Thailand (Weerathamrongsak et al., 2013). Therefore, there is a gap in the research on rubber chemicals in Thailand. Thus, understanding the significance of these firms regarding their purchase decision of rubber chemicals can benefit both buyers and sellers. This section investigated further the empirical literature that studied factors that can influent the industrial purchase intention of rubber chemicals.

Brand Awareness

Brand awareness is very important as the buyers would think of a particular brand name first before considering its associations. For example, when the buyers select the product category, a set of brands would appear in their minds for consideration. Any brands that have higher brand awareness, the buyers tend to purchase from those brands (Shahid, Hussain, & Zafar, 2017). Moreover, the buyers may consider based on the brand awareness alone in the absence of brand image because of either having no interest in the product or service or having no knowledge about the brand (Keller, 1993). Chi et al. (2009) stated that the customers were likely to purchase the products which were well-known and familiar to them, and they found that, in the cellular phone market, the customers tended to buy the products if they could identify a brand corresponding to their preferences. For the franchise business, Lin et al. (2014) found that, at the tourist destinations, the customers were willing to purchase products from the branded franchise stores, such as 7-eleven and Family Mart, more than the local independent stores because they perceived as riskier at the non-franchised stores. Brand awareness and brand image played an important role in this case. Therefore, without the experience with the brand, it is very difficult for the customers to recognize, recall, and make the decision to purchase (Davis et al., 2009). Additionally, when the customers are uncertain about a particular product and not familiar with its category, they tend to incline towards the popular, well-known, and reputable products instead (Lin et al., 2014). From these researches, brand awareness affects the purchase intention differently across the industries in the market. Therefore, the author would like to study whether the buyers can recall and recognize any brands associated with any kind of rubber chemicals at the time of purchase or not, without reflecting on the perceptions of the brands or brand image.

Value for Money

In rubber chemicals context, the supplier that offers a lower price product than its competitors is not always guaranteed to get the orders. In addition, this does not mean that the supplier would not get the orders from offering a higher price than its competitors as well. There must be reasons why the customers make such purchasing decisions. Mudambi et al. (1997) indicated that price alone did not fully explain the purchase decisions. Hence, instead of looking at price as the factor, value for money should be considered for this study. In Zeithaml's (1988) research, the author gave four definitions of value: value is low price, value is whatever I want in a product, value is the quality I get for the price I pay, and value is what I get for what I give. Accordingly, the author defined them as perceived value and

gave another overall definition as "the customer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (p. 14). Moreover, the value was not only about the low price or the good quality, but also a tradeoff which might include other factors as values rather than looking at the quality alone (Zeithaml, 1988). Further research by Sweeney and Soutar (2001), they developed and generalized the perceived value to be a multidimensional construct consisting of emotional, social, quality/performance, and price/value for money. Nevertheless, this study only focuses on the price/value for money factor because it is related to the price. Value for money was defined as "the utility derived from the product due to the reduction of its perceived short term and longer-term costs" (Sweeney & Soutar, 2001, p. 211). In other words, value for money is the cost-effectiveness of a product or the product should be reasonably priced. Several researches confirmed that the level of purchase intention could be increased by improving the value for money (Hsu & Lin, 2015; Yoo, 2015). Therefore, if the supplier can meet or exceed the value of a product, this should also increase the purchase intention of rubber chemicals in this study.

Quality

Based on Zeithaml (1988) and Sebastianelli & Tamimi (2002), quality was defined as the excellence or the superiority of a product; in another word, it was called objective or actual quality. Quality could be identified in five definitions: transcendent, product-based, user-based, manufacturing-based, and value-based (Sebastianelli & Tamimi, 2002). Moreover, quality is also a multidimensional construct consisted of eight dimensions: performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality (Zeithaml, 1988; Sebastianelli & Tamimi, 2002). However, in Sebastianelli & Tamimi (2002)'s study, some of the quality dimensions were subsumed under three major definitions of quality which were the product-based, user-based, and manufacturing-based. Product-based quality consisted of performance, features, and durability dimensions. User-based quality consisted of aesthetics and perceived quality dimensions. Manufacturing-based quality consisted of conformance and reliability dimensions. In the industrial markets and manufacturing firms, quality is related to both product-based quality and manufacturing-based quality because product-based quality is viewed based on the measurable characteristics of the product and manufacturing-based quality is viewed as the conformance of the product to its specifications. Therefore, a high level of product-based and manufacturing-based qualities that meets the design standards should increase the level of purchase intention. By conforming with the product technical standards, the manufacturing firms could avoid the nonconformity products which could generate costs to scrap, rework, and product failure (Sebastianelli & Tamimi, 2002). Additionally, Hinterhuber & Hinterhuber's (2012) study also proved that quality is one of the important factors for farmers and resellers.

After Sales Service

Another aspect towards purchase intention is the after sales service. For the manufacturing firms, not only that they were trying to sell goods and services and to gain market shares, after sales service had also become one of the significant roles. Ahn & Sohn (2009), Murali, Pugazhendhi, & Muralidharan (2016) , and Habib & Sarwar (2021) stated that the main objectives for every business are to satisfy and keep the existing customers, and to attract the new customers. Therefore, in order to meet with these objectives, performing customer service activities are unavoidable and become one of the focuses rather than manufacturing of

products. The customer services could additionally improve the customer satisfaction, customer retention, and customer loyalty towards the firms (Ahn & Sohn, 2009; Murali et al., 2016). In our case, the main service in this study is the after-sales service. After-sales service consisted of many activities, such as technical advice, maintenance/ repair, spare parts delivery, product upgrading etc. (Ahn & Sohn, 2009; Murali et al., 2016). Furthermore, Murali et al. (2016) exemplified after-sales service more in details as follows: guaranteeing the suppliability of goods, solving the problems for the end- users, supporting customers from the time of purchase until the time that the product was removed from service by the customers. Ahn & Sohn (2009) stated that after-sales service was not only significant in differentiating the product from other competitors, but it was also important to the sales of the product itself. Besides, Ahn & Sohn (2009) also confirmed that manufacturing firms could obtain four times greater in sales and three times greater in the turnover during the product life's cycle. Both Ahn & Sohn (2009) and Murali et al. (2016) indicated that after-sales service was not only the source of profit, but also the revenue generator. Thus, the high level of after-sales service can enhance the profitability of the firms in return. By providing after-sales service, the manufacturing firm can receive feedback about its quality of the product, service, and marketing activity etc. from the customers. This particular information can help the firms to gain new knowledge to improve its product; moreover, it can help increase the relationship between firms and customers (Murali et al., 2016). So, firms can receive more information regarding their competitors in the market from the customers. Therefore, by improving the relationship, after-sales service could enhance more business and transactions (Murali et al., 2016).

Country-of-Origin

An additional factor that could affect the industrial purchase intention is the country-of-origin. Country-of-origin could be viewed in other word as country image (Min Han, 1990; Godey et al., 2012; Wang, Barnes, & Ahn, 2012; Reichert & Altobelli, 2016) and it was one of the important factors for the field of international business (Wang et al., 2012). In general, country-of-origin was one of the factors used in decision criteria to purchase and became more important when consumers are unfamiliar with the product as studied by Min Han (1990). Furthermore, Min Han (1990) also pointed out the important finding that country image had more impact towards the products from developed countries than the developing countries, because consumers were more familiar with the product from developed countries.

In terms of the industrial market specifically, Reichert & Altobelli (2016, p. 627) indicated that there was not much attention on the country- of- origin in the industrial markets, unlike consumer markets, because the research on country- of- origin effect related to B2B was "somewhat dated" and apparently quiet for the past decade. Thus, the authors established the new perspective regarding the effect of country-of-origin on the buying center member and reflect on the reality of the industrial purchase decision. The industrial purchase decision was not made by only people from purchasing department, but people from various departments instead. Therefore, there were two groups which are the users and non- users. In the manufacturing firms, it is normal that the product users are not the ones who purchase, rather the purchasers are the non- users who are the CEO or managers of the company. The study showed that these groups of people perceived the quality of the product and country image differently towards intention to purchase.

Supply Ability

For the industrial market, supply ability is also considered to be another important factor because having enough resources to produce goods means that a manufacturer can generate sales from the products committed to its customers (Steinhart, Mazursky, & Kamins, 2013). Every company tries to avoid the shortage of the raw materials and this can refer to scarcity, disruption of supply, unavailability, supply risk, and availability risk depending on the familiarity of each company. These terms can be defined as possible situation of the inbound supply circumstance which cannot meet the customer demand. This supply risk could occur from natural disasters, poor demand forecasting, poor supplier quality, shipment inaccuracy, and poor environmental and social performance of the suppliers (Carter & Rogers, 2008).

In terms of supply chain, this term refers to the flow of information and product from the raw material to the end customer. Christopher & Peck (2004, p. 2) defined supply chain as "the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer". However, due to the expansion of supply chain from the increasing of interconnection between companies, the global market becomes bigger and increases the complexity along the line (Christopher & Lee, 2004; Christopher & Peck, 2004). Therefore, it is unavoidable that the supply chain is facing the uncertainties and can be unpredictable which lead to the disruptions of product and service. There are the risks associating with the companies both internally and externally. In order to respond to these risks, it is the responsibilities of procurement or purchasing teams (Christopher & Lee, 2004; Roberta Pereira, Christopher, & Lago Da Silva, 2014). The teams must identify, assess, register, monitor, and manage their own risks for the business continuity. Furthermore, the literatures also suggested that the companies should strive for supply chain resilience (Christopher and Lee, 2004; Christopher and Peck, 2004; Roberta Pereira et al., 2014). Resilience is defined as the ability to return the supply chain to its original state after going through the disruptions or any disturbances. Two key ideas for supply chain resilience are visibility and agility. Visibility is the ability for the companies to see from one end to the other end of the supply chain and agility is the ability to respond to the unexpected events. By achieving these ideas, they would give more confidence along the supply chain (Christopher & Lee, 2004). Thus, it is very important for the procurement and purchasing teams to have a business contingency plan on hand to increase the competitiveness in the market (Roberta Pereira et al., 2014). With the supply chain risk management, it can increase the sales, improve the market share, and help to go into the new markets (Christopher & Lee, 2004). From the above-mentioned literature review, it is the role of procurement and purchasing team to secure the supply chain and the supply ability should be put into their consideration.

Perceived Economic Situations

Another factor to be considered in this study is how consumers view the economy as a whole or it is called "perceived economic situation". In the Chinese property market, Wang, Chan, & Xiong Chen (2001) found out that economic sentiment (economic situation) was a significant economic variable in predicting the housing purchase intention. However, the economic sentiment only concentrated on the macro aspects of consumer behavior or the aggregate demand; therefore, it was applied in some markets and situations, such as housing, stock market behavior, automobile purchases, consumer saving, expenditure, and credit (Wang et al., 2001). In comparison, Chaniotakis, Lymperopoulos, &

Soureli (2010) explored this factor on the perception of national brands and own-label brands in Greece on olive oil. The research confirmed that if the consumers perceived economic situation pessimistically, they seemed to enjoy the advantage of own-label products and indirectly influenced the intention to purchase. Furthermore, Jaafar, Lalp, & Naba (2012) conducted the research on the private label products or own-label brands. Many variables were tested to compare in the perception of extrinsic factors, intrinsic factors, and consumers' attitude in which perceived economic situation was included. Perceived economic situation was a significance variable among the others as well as the research on purchase intention towards private label products by Cela & Cazacu (2016) which was conducted at LIDL supermarket and Carrefour in Greece, while Jaafar et al.'s (2012) research was conducted in Malaysia on food products. Both papers agreed that, during the economic crisis, consumers tried to save money by purchasing private label brands. Once they perceived the economy to be better, they would switch back to the well-known brands or products.

Based on Chaniotakis et al.'s (2010), Jaafar et al.'s (2012), and Cela & Cazacu's (2016) researches, it depended on how the economic situation was perceived by the consumers. In Wang et al.'s (2001) paper, consumers could perceive the economy optimistically or pessimistically. Economic optimism could enhance the consumer confidence to make a large expenditure, while economic pessimism could generate the hesitancy towards the big purchase. Rubber chemicals also have similar traits, such as the premium brands with high quality products and the brands with acceptable quality. Nevertheless, there were no researches on optimism and pessimism economic perception towards purchase intention of rubber chemicals.

Firm Performance

From the previous literatures on firm performance, many definitions of this term were proposed by the scholars and it basically referred to the efficiency, effectiveness, and competitiveness of a firm (Murphy, Trailer, & Hill, 1996; Santos & Brito, 2012; Taouab & Issor, 2019). Firm performance comprised of two elements which were financial and nonfinancial measures (Murphy et al., 1996). Profitability and growth were included in financial measure, while customer satisfaction, employee satisfaction, social performance, and environmental performance were included in nonfinancial measure. However, this study only focuses on the financial part, specifically on firm growth, whether it influences the purchase intention or not. The growth referred to the growth of market share, sales, revenue, or net profit etc. but profitability referred to the financial ratios. Therefore, using firm growth as the indicators is more appropriate in this study because the respondents have more access to those indicators rather than the financial ratios, especially the procurement team. By examining the relationship between firm performance and purchase intention, it can also illustrate the competitiveness of the firms in the market as it is unavoidable that every firms must maintain their firm performance or growth of their business to be competitive and survive in market (Richard, Devinney, Yip, & Johnson, 2009; Taouab & Issor, 2019). Based on Elbanna & Child's (2007) research, firm performance is classified as the firm characteristics which affects the decision-making processes. In addition, successful decision is the function of sufficient availability of resources, such as money, materials, and customers etc. (Rodrigues & Hickson, 1995; Elbanna & Child, 2007). Thus, with the firms having high performance, their performance should subsequently increase the level of purchase intention.

Research methodology

The study was conducted in Thailand using survey questionnaire and e-mail survey questionnaire to collect the primary information. The samples were mainly purchasing officers, purchasing managers, and others who are responsible for the purchasing of rubber chemicals for manufacturing firms of rubber products. The sample size for the study was calculated using Yamane's (1967) equation. The acceptable precision error of 5% was used to calculate the appropriate sample size. Based on the statistic report from Rubber Intelligence Unit, there are a total of 652 companies which produce rubber products and require rubber chemicals as raw material in Thailand as of June 2, 2019 (Rubber Intelligence Unit - n.d.). Therefore, 248 samples were required for this study.

The survey questionnaire was structured in two parts. The first part asked mainly about the basic profiles of the respondents which were the responsibility of the purchase, job position, number of employees in the company, and types of products being manufactured. The second part was the main section where the respondents were asked to rate nine factors, namely brand awareness, value for money, quality, after-sales services, country of origin, supply ability, perceived economic situation, firm performance, and purchase intention of the industrial products (rubber chemicals). The first eight were the independent factors while the last one was the dependent factor. The respondents would be asked to rate each attribute on the 7-point Likert scale (1 = strongly disagree, 4 = neutral, and 7 = strongly agree) (Reichert & Altobelli, 2016). The questionnaire was also available in both English and Thai languages to avoid the misunderstanding of the questions. The detail on the questionnaire is presented in the Appendix.

Reliability analysis was performed on each construct to obtain the Cronbach's alpha coefficients. Based on other researches, the value of 0.7 or greater was advised. Although the value between 0.5 and 0.7 was acceptable, it was not recommended on most researches. The value less than 0.5 was considered unacceptable and any variables with such value should be removed from their constructs (Murali et al., 2016; Reichert & Altobelli, 2016; Syed Alwi et al., 2016). Multiple regression analysis was then conducted to determine the linear relationship between independent variables (brand awareness, value for money, quality, after-sales services, country of origin, supply ability, perceived economic situation, and firm performance or Xi) and dependent variable (purchase intention or Y). The size of company and type of product were also included in the model as control variables to capture the differences among the groups. The methodology has been used in many studies to analyze purchase intention (Curvelo, Watanabe & Alfinito, 2019; Lau, Lam & Cheung, 2016; Wekeza & Siband, 2019). The analysis would then calculate the coefficients of each independent variables towards the dependent variable (Reichert & Altobelli, 2016). By comparing the calculated significance of each independent variables with significance level, the hypotheses could be analyzed and justified. The multiple regression model used for this study was therefore constructed as follows.

$$Y = \beta_0 + \beta_1 X_1 + \cdots + \beta_p X_p + e$$

where e is the error term.

Results

Profile of Respondents

From the face-to-face interaction with the team, a total of 263 respondents voluntarily did the questionnaires. 16 sets of the questionnaires were considered incomplete and excluded from the total number of questionnaires. Thus, a total of 247 sets were used to analyze which is approximately according to the calculation of Yamane's

(1967) equation.

Table 1 shows the number of the sizes of companies where the respondents were working. It summarizes the companies into small, medium, and large enterprises according to the number of employees in the companies as defined by Revenue Department of Thailand for the manufacturing firms (Types of SMEs, 2018). Table 2 shows the number of job position of the respondents. Despite that there were many job positions from the collected data, they were organized into four categories for the ease of understanding. The largest group was procurement section following by technical section, management section, and others, respectively. From this table, not only that the procurement section had the responsibility for sourcing the raw materials, technical section also was a part of decision-making team with purchasing power. Moreover, only the small portion that the management team made the decision and other departments could make the purchasing decision. Table 3 summarizes the data from the respondents in terms of type of products as stated in Weerathamrongsak & Wongsurawat (2013).

Multiple Regression Analysis

Multiple regression analysis was conducted to test the linear relationship between independent variables (brand awareness, value for money, quality, after-sales services, country of origin, supply ability, perceived economic situation, and firm performance) and dependent variable (purchase intention). The model indicated the adjusted R2 value of 0.466, that is, the model explained 46.6% of the variability of the data around its mean (F = 22.455 and p-value = 0.000). Moreover, the multicollinearity problem was shown to be insignificant. The multicollinearity problem only shows when the variance-inflating factor (VIF) exceeds the value of 10, so it can be concluded that there were no relationships among the independent variables. The results of multiple regression are shown in Table 4. According to the statistical significances, out of eight independent factors, four factors had a significant and positive relationship towards purchase intention of rubber chemicals for manufacturing firms in the rubber industry in Thailand. These factors include value for money, after-sale services, supply ability, and firm performance. Size of company and type of products were also included in the model as control variables and the result indicated that no effects were shown from different groups of manufacturing firms considered towards the purchase intention. Detailed discussion on each of the independent factors in the model and managerial implications were discussed in the following section.

Table 1: Number of respondents according to the size of the company

Size of Company	Number of Employees	Number of Respondents	Percentage
Small	1-50	22	8.9%
Medium	51-10	54	33.6%
	101-150	9	
	151-200	20	
Large	201-250	8	57.5%
	251-300	10	
	301-350	7	
	351-400	13	
	401 or more	104	
Total Amount		**247**	**100%**

Table 2: Number of respondents according to the job position

Section	Job Position	Number of Respondents	Percentage	Total Percentage
Procurement	Procurement Staff	121	48.99%	67.61%
	Assistant Procurement Staff	1	0.40%	
	Procurement Manager	43	17.41%	
	Raw Material Planning	2	0.81%	
Technical	R&D Staff	22	8.91%	23.08%
	R&D Manager	28	11.43%	
	Production Staff	1	0.40%	
	QC Staff	4	1.62%	
	Technical Advisor	1	0.40%	
	Rubber Mixing Head	1	0.40%	
Management	Managing Director	5	2.02%	5.67%
	Owner of the Company	8	3.24%	
	Shareholders	1	0.40%	
Others	Sales Staff	4	1.62%	3.64%
	Accounting Staff	4	1.62%	
	Other	1	0.40%	
Total Amount		**247**	**100%**	**100%**

Table 3: Number of respondents according to a type of products

Type of Products	Number of Respondents	Percentage
Automotive Rubber Parts	88	35.63%
Industrial Rubber Parts	30	12.15%
Other Rubber Products	79	31.98%
Vehicle Tires	50	20.24%
Total Amount	**247**	**100%**

Table 4: Multiple regression results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.712	.436		1.635	.103		
Brand Awareness	.003	.060	.003	.053	.958	.643	1.555
Value for Money	.096	.052	.109	1.841	.067*	.616	1.624
Quality	.107	.074	.094	1.449	.149	.512	1.952
After Sales Service	.151	.080	.128	1.891	.060*	.472	2.117
Country of Origin	.025	.050	.029	.497	.620	.646	1.549
Supply Ability	.155	.066	.151	2.343	.020**	.525	1.906
Perceived Economic Situation	.073	.066	.065	1.099	.273	.627	1.596
Firm Performance	.331	.058	.353	5.658	.000***	.557	1.794
Size of Company	-.037	.075	-.023	-.485	.628	.948	1.055
Type of Product	-.002	.042	-.002	-.037	.971	.970	1.031

a. Dependent Variable: Purchase Intention

Note: *** Statistical significance at 1% level
** Statistical significance at 5% level
* Statistical significance at 10% level

Discussion

To have better understanding, each of the independent factors in the model was discussed in detail on how it can or cannot influence the purchase intention in this section.

Brand Awareness

Based on the results, brand awareness was insignificant towards the purchase intention, implying that the buyers of rubber chemicals were not aware of the brand of the product when they made the purchase. The results were contradict to the other studies on brand awareness, for example, in cellular phone market (Chi et al., 2009) and franchise business (Lin et al., 2014). It was possible that, for rubber chemical industry, the buyers did not pay much attention to the brand names as the products provided the similar performance and quality causing no brands to stand out from

the competitors. In addition, buyers procured the rubber chemicals from many suppliers. Therefore, for the procurement team, they might use only a common name or generic name of the rubber chemicals for the ease of recognition and understanding to avoid any mistakes. Another possibility was that the buyers could acknowledge the manufacture name as the brand or distributor name as the buyers were not always purchased directly from the supplier (Walley et al., 2007; Davis et al., 2009), especially in the case of Thailand. Thus, brand awareness of the product itself became insignificant towards the purchase intention. Regardless of the brand awareness, the buyers could also keep purchasing from the same or existing suppliers as a result of "inertia". The inertia is the habit of purchasing from a particular brand as the buyers always buy it as a risk reduction strategy which believed to be important in the industrial market (Walley et al., 2007).

Value for Money

Value for money showed a significant relationship towards the purchase intention and it was also important for the industrial market. The result also aligned with other studies for this direct relationship (Hsu & Lin, 2015; Yoo, 2015). For this study, the factor confirmed that the buyers considered what they received at a particular price and whether it was worthwhile or not. For example, one rubber chemical might be more expensive than the other suppliers; however, the buyers still considered to purchase from this supplier because the product solved the problem during the production process, increasing the productivity and reducing waste at the same time. So, the customer could gain more than using a cheaper raw material. In term of condition, the buyers could receive more services either from the suppliers which improved the convenience to the production workers (Zeithaml, 1988). For instance, the ready-to-use packaging might be customized specifically for the customer at the acceptable price, while the other competitors were not able to facilitate this benefit to the customers although they offered a lower-priced product. Therefore, the price level was not everything during the purchase, but what kind of values that the customers could get at the price was more influential. Depending on the types of products either in consumer or industrial market, the suppliers had to find the values as they might be differed in term of benefits to the customers. However, pricing strategy should not be ignored (Syed Alwi et al., 2016) and the price level must be competitive enough with other suppliers.

Quality

The results showed that quality was not significantly related to the purchase intention. In the industrial market, having a good quality product that conformed to the user's specification was very critical in the manufacturing process. Therefore, most customers required their suppliers to have the international standards either ISO 9001 (Quality Management System), TQM (Total Quality Management) or both as one of the procurement's requirement. Thus, the consistent product quality would already be achieved through these standards. The customers then did not have to concern so much on the quality factor of the rubber chemicals when they made the purchase. However, the quality factor in this industrial market did not confirm its importance as in the other researches (Zeithaml, 1988; Mudambi et al., 1997; Sebastianelli & Tamimi, 2002; Bendixen et al., 2004; Hinterhuber & Hinterhuber, 2012).

After-Sales Services

After-sales services were significantly related to purchase intention in this study and the level of influence was relatively high comparing to other factors as well. The study showed that this factor was an essential part of the sales to the buyers, indicating that the

higher level of after-sales services enhanced the purchase intention of rubber chemical products. In order to do sales and promotion of this type of product, the salesperson had to understand the technical knowledge because this was an industrial product that a deep technical advice by the salesperson was a must. The after-sales services were sufficient and the buyers received good supports from the suppliers. This indicated that every supplier in this market must have the fundamental knowledge of rubber industry and the ability to explain in-depth information. Rubber chemical products were one of the important parts of the manufacturing process. Therefore, without the knowledge, the salesperson could not support or get the feedback from the customers correctly and accurately. This could eventually create more problems to the end products causing multiple damages to many parties along the process. In addition, the after-sales services could also help to create the relationship between the suppliers and customers which was a key element in the industrial market.

Country-of-Origin

According to the result, country-of-origin did not affect the purchase intention of the rubber chemicals. It contradicted the other researches that country-of-origin influenced the purchase intention on both consumer and industrial market (Godey et al., 2012; Wang et al., 2012; Reichert & Altobelli, 2016). For the case of Thailand, the result was possible as the buyers might not be able to remember where all the raw materials came from because, for example, there were many suppliers selling the same product and the products were imported from many different countries. Moreover, not all the buyers had the opportunity to visit the countries of their suppliers. It then became difficult for the buyers to be familiarized with those countries. The customers could be less dependent on the country-of-origin if they had enough knowledge and experience with the attributes of a product from that specific country (Min Han, 1990). Moreover, the country image could be changed over time (Reichert & Altobelli, 2016). So, the reputation from the country-of-origin did not necessary lead to the purchase.

Supply Ability

Supply ability was significantly related towards the intention to purchase. The level of influence was almost identical to the after-sales services but it was more influential showing that the customers genuinely emphasized this factor. The sustainability of supply chain was considered by the procurement team during the discussion with its supplier because not only the social factors were important but also the environmental factors. For instant, in 2017, China imposed strict environmental standards to its producers and shut down some producers because of the heavy air pollution (Tan, 2018). Due to the event, the supply of rubber chemicals became tight to downstream customers and caused the sudden increase in price level from the limited supply. At the time, the customers tried to seek other suppliers outside China to mitigate the future risk of supply disruption. Nowadays, to reduce such a risk, the customers also requested and pushed their suppliers to have business contingency plans as one of the procurement requirements (Roberta Pereira et al., 2014). Therefore, to enhance the purchase intention of rubber chemical products, suppliers should ensure their sustainability of supply chain to their customers. According to the study by Christopher & Peck (2004), the customers perceived the supply ability of the suppliers by considering several factors including the number of suppliers and plants available in the market. For example, a supplier could have multiple plants across a country or the world to avoid the single source of supply which increased the risk of its supply chain. Furthermore, the suppliers have to keep sufficient inventory for the smooth supply and

it is a common practice that they keep more inventories as the safety stock to cope with the uncertainties of, for instance, delayed transportation, inconsistent production schedule and irregular demand.

Perceived Economic Situation

In this research, perceived economic situation showed an insignificant relationship towards purchase intention. Whether the customers perceived the economy either positively or negatively, they still had to purchase the rubber chemicals for their production. Even though perceiving the economic situation positively and negatively could influence the high or low volume of purchase and the acceptable price range, it did not influent the purchase intention of the buyers. Furthermore, the customers might consider using the equivalent product with a lower price and a fair quality when they perceive the economy negatively. Likewise, they might consider the premium brand product when they perceive the economy positively to avoid and reduce the possibility of non-conformed product because it is well-known for its standard and quality. Both Chaniotakis et al. (2010) and Cela & Cazacu (2016) confirmed the same occurrence in their studies that the perceived economic situation influenced how people evaluate the products. If they perceived negatively on the economy, they tended to purchase the private label products or own-level products (low price with low quality or acceptable quality), and vice versa. Therefore, this factor influenced how the customers made the purchase, not the decision to make the purchase.

Firm Performance

In this study, firm performance showed the most significant relationship towards purchase intention. Based on the result, it showed that growing in sales, production, and obtaining more customers were important for the firm to influence its purchase. The higher the level of firm performance, this helped the firm to consider easier and took less time for the purchase because its resource was readily available (Rodrigues & Hickson, 1995). Therefore, the effect on the purchase intention would be varied depending on each firm's situation and this confirmed that firm performance was the firm-specific factor (Elbanna & Child, 2007).

Conclusion

This study provided more insights to the existing researches for the industrial market (B2B), specifically focusing on the influencing factors on purchase intention of rubber chemicals. Based on the multiple regression analysis, value for money, after-sales services, supply ability, and firm performance were positively significant towards the purchase intention. The result benefited the sellers of rubber chemicals in Thailand to understand more on what factors their customers are looking for during the purchase and improve their decision-making processes to satisfy the manufacturing firms in rubber industry in Thailand. For this B2B market, it can be seen that the buying process is more rational and less influence by emotions. Thus, values and benefits offered by the sellers are very important to the customers.

Managerial Implications

The study provided the following suggestions to both raw material suppliers and distributors in the rubber industry. In order to increase sales, the suppliers must have good knowledge on the raw materials and experiences with them, so that they can give advice to their customers, especially during the after sale. In case of any problems arise, the suppliers must be able to guide their customers through the process as quickly as possible. More importantly, the suppliers must be reliable to their customers. Supply continuity and flexibility are very crucial in this market because there are many stakeholders along the

supply chain. An interruption of supply ability can cause a huge effect to the next company in line. Inability to supply the raw material can create bad image for a company in the market and create hesitancy among the customers. Therefore, the suppliers, not only the management level but also every employee, must have good teamwork to manage their supply chain to create the supply security in the mind of their customers. Last but not least, the suppliers must find their own values and ask themselves as to why the buyers have to buy the products from them given the price level. If the values coincide with the customer's expectation, the supplier would gain competitive advantage and be able to attract more customers' purchase intention. Accordingly, this would also create trust with the new and existing customers resulting in future benefits to the suppliers.

Limitations and recommendations for further study

The author recognizes the limitations in this research. This paper is limited to the small sample size of the certain group of people with the purchasing authority for rubber chemicals, unlike the consumer market that the sample size is extremely large. The non-probability sampling method may create the biases to some degree. Therefore, this research cannot represent every industrial market but it helps and enhances further studies in this field. In addition, even though the Likert scale is a universal method for analyzing survey, there are limitations in using such methodology such as response bias, restricted choice and the use of parametric hypothesis tests. The interpretation of the results are therefore required to take these limitations into consideration.

Further research is recommended to understand more on the rubber industry as well as the industrial market. The significant factors might be changed from the longitudinal study (Hinterhuber & Hinterhuber, 2012). For example, perceived economic situation was not significant in this study at the time when the sample was collected. However, these factors might strongly be significant if the questionnaire was distributed during the ongoing pandemic (COVID-19). Different sets of predicted factors and time of the study would definitely show distinct results, but there would be a common ground that the same predictors show the similar results. Moreover, some factors in this paper were the multidimensional constructs according to many researches previously. To understand more on any particular factors, future researches should concentrate on those sub-dimensional variables as they should provide further insights to other researchers.

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INFLUENCING FACTORS OF ONLINE LEARNING SATISFACTION AND BEHAVIORAL INTENTION AMONG CHINESE COLLEGE STUDENTS

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ABSTRACT

The purpose of this study is to investigate the key influencing factors of college students' online learning satisfaction and behavioral intention during the epidemic period. The examined variables are convenience, benefit, self-efficacy, student engagement, flexibility, perceived usefulness, satisfaction and intention. The methodology used is quantitative method (n=550) by sending questionnaires to senior art and design students in three private universities in Sichuan Province. Multistage sampling was accounted to use nonprobability sampling with judgmental sampling to select top three private art colleges and universities. Next, probability sampling with stratified random sampling was taken to calculate the amount of each group. Last, the convenience sampling was to distribute questionnaires via offline and online channels. The Structural Equation Model (SEM) and Confirmatory Factor Analysis (CFA), including model fit, reliability, and validity were deployed for data analysis. Research findings showed that convenience, benefit, self-efficacy, student engagement, flexibility, and perceived usefulness significantly impact satisfaction and intention. Satisfaction strongly influences online learning intention, followed by benefit, student engagement, flexibility, perceived usefulness, convenience, and self-efficacy. In summary, seven hypotheses were proven to achieve research objectives. Therefore, this study suggests academic practitioners to assess influencing factors to improve college students' online learning satisfaction and behavioral intention.

Keywords: Convenience, Benefit, Self-efficacy, Student Engagement, Flexibility, Perceived Usefulness, Satisfaction, Intention

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1. Introduction

In the past 20 years, the development of information and network technology has impacted online teaching in China. It has rapidly grown especially in the two pandemic periods of SARS in 2003 and COVID19 in 2020. In 2003, due to the limitation of information and network technology, the teaching was mainly a one-way mode, teachers and students could not timely communicate. In the later stage of online education development, the Ministry of Education randomly launched high-quality audio and visual development for online learning materials to provide a strong construction of online teaching resources. At the beginning of 2020, the COVID-19 epidemic had swept across almost all countries in the world, causing immeasurable losses. The sudden outbreak of COVID-19 disrupted the normal order of education, leading to the closure of classes. It impacted more than 850 million students around the world and the disruption of existing teaching programs in almost every school worldwide. Many countries immediately offered online teaching services to students through various conference platforms such as Zoom, Skype and FaceTime. Online learning has restored normal teaching in most areas. Under the background of "no suspension of classes" initiated by the government, China's education, especially higher education institutions, had unexpectedly realized the transformation and docking between online and offline through internet technology. China had begun to use Ding Ding, Tencent, Zoom and other office meeting software tools to provide online learning on a large scale. Urdan and Weggen (2000) pointed that online learning referred to e-learning, distributed learning, web-based training, learning and teaching, or virtual learning.

Ministry of Education confirmed online learning during epidemic that it had organized 37 online course platforms and technology platforms, opening free online courses such as Massive Open Online Courses (MOOCs) and virtual simulation experiments, providing online learning solutions and technical support and promoting active participation of more than 110 societies and platforms to universities across the country. Teachers and students have transited from "knowing nothing" to "gradual adaptation", from "hasty battle" to "smooth transition" and from "deep suffering" to "gradual appreciation". Every university have been utilizing the power of internet and education technology, proving a strong education's capability among higher level of colleges and universities in China. Online learning as a new way of education is facing extraordinary opportunities. Facts have proved that the progress of educational technology, especially popularization of the Internet and widely use of online learning, has changed teachers' cognition of educational technology via internet network and educational concept of students' way of learning.

The purpose of this study is to investigate the key influencing factors of college students' online learning satisfaction and behavioral intention during the epidemic period. The examined variables are convenience, benefit, self-efficacy, student engagement, flexibility, perceived usefulness, satisfaction and intention. The sample group is senior students of three

private art colleges in Sichuan province, which ranked among the top three colleges in China. In addition, the study also assesses the causal relationship between each variable to reveal the support factors on satisfaction and behavioral intention.

2. Literature Review and Hypotheses

2.1 Online Learning

Online learning is described as an instruction delivery and learning experiences that are derived from electronic platforms using technological hardware and software with internet access. There are other terms used such as e-learning, m-learning and internet-based learning (Maddison et al., 2017).

In China, online learning has been vastly used during the epidemic era. As out of home activities have been limited, online learning is viewed as an alternative channel that provides the interaction between lecturer and learners during an outbreak. The Chinese government has upgraded the online schools' infrastructure and has originated a number of dedicated online courses to support the distance learning programs (Wang et al., 2009).

2.2. Massive Open Online Courses (MOOCs)

Massive Open Online Courses (MOOCs) is referred to an online learning ecosystem that is widely used in an education system worldwide. It provides accessible and affordable online learning for a wide range of learners' group (Yunusa & Umar, 2018). The concept of MOOCs was developed in 2008 and has grown rapidly during pandemic. Chinese academic organizations have optimized its equipment to support the MOOCs system for more efficiency and to increase the adoption level in schools and universities**.** There were more than 9,000 massive open online courses in China via platforms such as XueTangX and iCourse International (McConnell, 2018).

2.3. Intention

Pollack (1990) signified that intention is a representative of the actions that a system might be taken to achieve its goals. Triandis (1980) considered that "individuals give themselves instructions to behave in a particular way is called behavioral intention". Ajzen (1985) attested that people might not have enough control to formulate their intentions although it could serve as an important reference for behavior prediction, which is explained in the theory of planned behavior (TPB). Hogarth (1991) posited that "intention is determined by the subjective norms of people's attitude and behavior".

2.4. Convenience

Collier et al. (2007) referred convenience as "the flexibility and convenience of allowing students to participate in online courses". Brown (1990) explained that the task completion in the shortest time with the least manpower and material resources reflects the convenience of service which provides the advantage of time and effort saving. According to Kaura et al. (2014), service convenience is a concept and idea that could reduce the cost of energy and time spent and also add value to product/service.

Per the report of Berry et al. (2002), service process is reflected mainly through five dimensions of service convenience in the activities that users engage, which can dominate users' satisfaction. Keaveney (1995) believed that inconvenient service causes users to change their behavior. Kaura et al. (2015) found another similar study exploring the mediating role of satisfaction

which showed convenience has a positive and direct effect on satisfaction. Many studies have examined the incidental relationship between convenience and satisfaction. Hence, researchers proposed the hypothesis that convenience significantly affects satisfaction per the following hypothesis.

H1: Convenience has a significant influence on satisfaction.

2.5. Benefit

Perceived (system) benefits referred to the extent to which users benefit effectively from an information system (Wixom & Watson, 2001; Staples et al., 2002; Wu & Wang, 2006). Kinard and Capella (2006) identified that familiarity with users and friendly relationship between providers and users are manifestation of social benefits. Fisher (2010) assumed that tangible benefits directly relate to products and services and is defined as utilitarian or functional benefits.

Oliver (1997) indicted that the relational benefits intend to capture the impact of differences i.e., the effect of intention or behavior on satisfaction. According to Bhattacharya et al. (2009), organization could achieve positive results from its CSR practice only if it brings benefits to its stakeholders.

Reynolds and Beatty (1999) captured those relational benefits could affect user satisfaction and loyalty to further learning and use. In the perceptual success model, perceived system benefit could be used as an indicator of perceived usefulness. Therefore, this study proposed that benefit has a significant effect on satisfaction with the assumptions shown below.

H2: Benefit has a significant influence on satisfaction.

2.6. Self-efficacy

Bandura (1995) alleged that self-efficacy referred to "the belief of one's ability to organize and execute the action plan required to deal with the potential situation". Shen et al. (2013) considered students' trust in their ability to successfully use online learning courses as a manifestation of self-efficacy, which presents a personal trait that plays an important role in the use of technology and information systems.

Bandura (1994) argued the determination on how people motivate themselves and their behavior per the belief about self-efficacy. Per the study of Peltier et al. (2003, 2007) and Eom et al. (2006) postulated that various research had surveyed in the past 10 years and had found that self-efficacy is a factor affecting student satisfaction of online learning courses.

Johnson et al. (2008) discovered the perceived utility of the network learner's system. Self-efficacy positively correlated with perceived content value, course performance and satisfaction. Satisfaction's level has increased when people believe in their abilities. Consequently, a positive correlation between self-efficacy and satisfaction exists (Federici, 2013; Federici & Skaalvik, 2012; Skaalvik & Skaalvik, 2009). The study of Hong et al. (2016) and Yu (2012) indicated that there is a significant and positive correlation between self-efficacy, satisfaction and system use, which was concluded by many scholars. Therefore, the following hypothesis is derived.

H3: Self-efficacy has a significant influence on satisfaction.

2.7. Student Engagement

Bomia et al. (1997) argued that the degree to which students' willingness and succession are required to the participation of the learning process which can be defined as student engagement. Briggs (2015) claimed that student engagement is referred to the level of students' interest, how they interact with others, and their motivation to obtain knowledge in the course. According to Schaufeli et al. (2002), engagement is characterized by diligence, dedication and focus, representing a positive and satisfied mindset. Mandernach et al. (2011) regarded that several factors related to student engagement are including attitude, personality, motivation, effort and self-confidence.

Several studies strengthened that when people are highly engaged, they would achieve a balance between work, study and life, reflecting intrinsic characteristics of their engagement (Rothbard, 2001), thus become more satisfied with that balance (Wrzesniewski, 2012). Another study of Shea et al. (2003) learned that students who participate in cohort studies with other students, interact with teachers and receive detailed feedback from them, tend to express satisfaction of the learning experience. Based on the above arguments, this study has proposed the hypothesis that student participation has a significant impact on satisfaction.

H4: Student engagement has a significant influence on satisfaction.

2.8. Flexibility

Kickert (1985) urged that flexibility, as a meta-control, could increase variety, speed and responsiveness to cope with future uncertainties. Previous research presented that flexibility of time and place for online learning are ideal and attractive for those who both work and study. Moreover, the flexibility of space and time allow them the freedom to study and work and life management (Arbaugh, 2000; Chiu & Wang, 2008; Githens, 2007; Marks et al., 2005).

The study of Upton (1995) and Thomke (1997) indicated that flexibility could be achieved without excessive cost, time, organizational disruption, or performance loss. Scholars believed that the ability to utilize the internal capabilities of the department to meet the changing needs of users, and then quickly and effectively create and reconstruct goals and plans could defined as the flexibility of strategic development, reflecting the positive relationship between flexibility and satisfaction (Hayes & Pisano, 1994; Pisano, 1994; McGrath et al., 1995).

Jin and Oriaku (2013) clarified those users who would benefit from flexibility are those who can solve unexpected problems according to their needs. The flexibility of strategy formulation has a direct impact on the ability of information dissemination in supply chain. In the research of mobile service conducted by Kim et al. (2004), factors such as quality, pricing structure, value-added services, procedural convenience and customer support were considered to promote user satisfaction. Therefore, this study proposed that flexibility potentially effects satisfaction, with the assumptions shown below.

H5: Flexibility has a significant influence on satisfaction.

2.9. Perceived Usefulness

Thirumalai and Sinha (2011) argued that perceived usefulness is the primary determinant for users (people) to identify and

use a system. It is a degree to which an individual decides to use a particular system and he/she would be able to improve his/her (job/academic) performance and productivity. According to Aboelmaged (2010), one of the influential determinants of various systems acceptance and technology applications in information systems research is perceived usefulness. Tandon et al. (2016) mentioned that the empirical analysis to confirming user satisfaction in the network environment inserts perceived ease of use and perceived usefulness as important determinants.

Roca et al. (2008) considered that perceived usefulness and ease of use are the predictors of learner satisfaction in e-learning programs. Perceived usefulness, as a key factor in technology adoption models, not only reflects the values associated with the application of information technology, but also enables users to judge their satisfaction based on these values. The study of Bhattacherjee (2001) used the adoption model to confirm the most important factor affecting user satisfaction which is perceived usefulness. In the context of mobile Internet, many researchers found that the use of mobile internet sites has a positive impact on user satisfaction (Lee et al., 2007; Zhou, 2014). Therefore, it is deduced that perceived usefulness has a significant impact on satisfaction, and the hypothesis is as follows.

H6: Perceived usefulness has a significant influence on satisfaction.

2.10. Satisfaction

Oliver (1980) certified that the accumulation of interactive feelings reflects satisfaction. Wang (2015) considered user expectation, quality awareness, convenience and maintainability as the main contents of user satisfaction. With the improvement of satisfaction, users' trust in products or services would be enhanced. Previous studies had shown the only variable that directly affects the behavior model of some information systems is user's satisfaction, which plays a mediating role between perceived usefulness and the information systems acceptance (Seddon, 1997; Seddon & Kiew, 1996).

Oliver (1980) pointed out that the first prerequisite factor for users' positive affirmation of service and expectations' level is satisfaction. Kim and Jang (2014)'s study showed that users' satisfaction has a beneficial effect on permanent intention in social networks. Jeong (2004) signified the most important indicator of users' satisfaction with the information provided by websites is their willingness to re-use certain websites. Bitner (1990) posited that users' purchase and reusage, and purchase intention play a key role in the study of users' satisfaction and trust. Therefore, it is concluded that satisfaction has a significant impact on intention. Hence, the hypothesis is as follows.

H7: Satisfaction has a significant influence on intention.

3. Research Methods and Materials

3.1. Research Framework

Based on previous theoretical and historical research, researchers used five main preliminary research frameworks to support and develop the conceptual framework of this study (Zhang & Kim, 2019; He et al., 2019; Gray & Diloreto, 2016; Sahin & Shelley, 2008; Tandon et al., 2017), which aims to identify and analyze the impact of factors such as convenience, benefit, self-efficacy, student engagement, flexibility, perceived usefulness, satisfaction and intention. The conceptual framework of this study is shown in Figure 1.

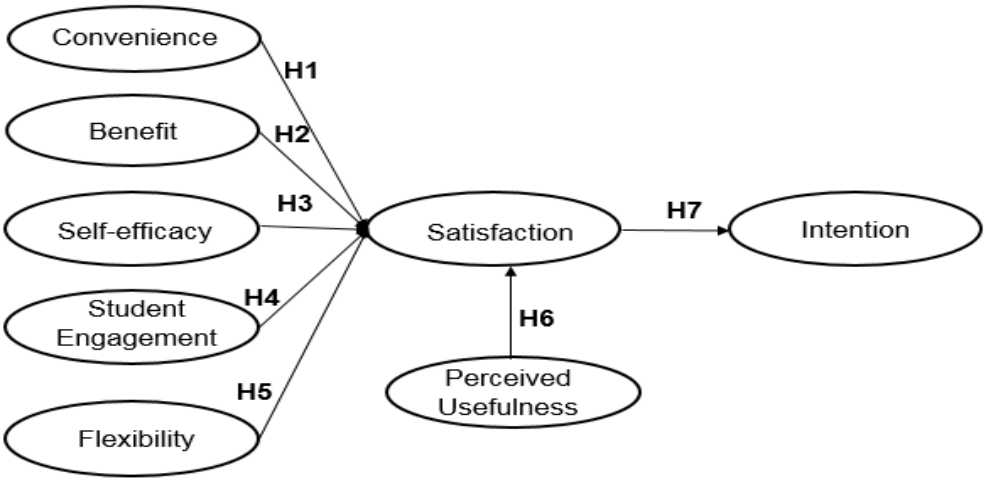

Figure 1 Conceptual Framework

3.2. Methodology

This study adopts quantitative method of nonprobability and probability sampling by sending questionnaires to target group of sophomores, juniors and seniors majoring in art and design collages of the top three private universities in Sichuan Province in China through online and paper questionnaires. Data had been collected and factors influencing online learning satisfaction and behavioral intention during the epidemic had been analyzed. The questionnaire consists of three parts including screening questions, measured items by using the 5-point Likert scale, ranging from strongly inconsistent (1) to strongly consistent (5), and demographic profile including gender, age and university years of students.

The prior validity and reliability test were conducted by using expert rating based on Item-Objective Congruence Index (IOC) and pilot test of 30 respondents based on Cronbach's Alpha method. After the test score passed with the reservation of all items, the questionnaire was validated to distribute to 506 target respondents. The data was analyzed by SPSS AMOS 21.0. Confirmatory Factor Analysis (CFA) was used to test the convergent and discriminant validity. The fitting degree of the model was ensured and calculated by the overall test of the given data. Finally, Structural Equation Models (SEM) was applied to test the relationship among variables.

3.3. Population and Sample Size

The target population of this paper was Chinese students from second year (Sophomore) third year (Junior) and fourth year (Senior) of art and design colleges in the top three universities in Sichuan Province, China, who have been experiencing online learning. Israel (1992) suggested that the sample size of structural equation models should include 200-500 respondents. In this study, the survey was completed by 550 respondents. After the data screening process, 506 responses were used for the analysis.

3.4. Sampling Technique

The researchers applied multistage sampling of three stages. Firstly,

nonprobability sampling using judgment sampling is used to select the top three art and design students from similar universities Secondly, the number of target respondents in each group was calculated by using stratified random sampling in probability sampling as shown in Table 1. Last stage is to distributing questionnaires online and offline by the method of convenience sampling.

The data was collected about three months between April and June 2021 and was screened to ensure the right target group. The online version was distributed through a joint research group of the three universities and respondents shared survey links with their classmates. Offline survey was conducted by the course teacher by the means of sending paper questionnaires directly to the students.

Table 1 Population and sample size in three universities

University name (Art and design category)	**Population Size Total**	**Proportional Sample Size Total**
Art Design and Animation of Sichuan University of Media and Communications	1,587	177
Design and Fine Arts College of Sichuan Film and Television University	1,442	161
School of Art of Sichuan Technology and Business University	1,507	168
Total number of questionnaires distributed	**4,536**	**506**

Source: constructed by author

4. Results and Discussion

4.1. Demographic Information

The demographic profile summarized in Table 2 involving 506 participants. Male respondents accounted for 54.9% and female respondents for 45.1%. The largest group of age in this study was 21-22 years old of 45.1%, followed by 35.0% of 19-20 years old, 19.4% of 23-24 years old and 0.5% of 18 years old and below. In terms of the student's years, the junior students were the major group which accounted 37.9%, followed by senior students of 33.6% and sophomore students of 28.5%.

Table 2 Demographic Profile

Demographic Profile (N=506)		Frequency	Percentage
Gender	Male	278	54.9%
	Female	228	45.1%
Age	18 years and below	3	0.5%
	19–20 years old	177	35.0%
	21–22 years old	228	45.1%
	23–24 years old	98	19.4%
Student's Years	Second Year (Sophomore)	144	28.5%
	Third Year (Junior)	192	37.9%
	Fourth Year (Senior)	170	33.6%

Source: Created by the author

4.2. Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis was used in this study. All items in each variable were significant representing factors loading to test the validity of the discriminant. According to Henseler et al. (2013), Goodness of fit (GoF) measurements were fundamentally applied to verify the fit of the model for each item. Fornell and Larcker (1981) recommended that the relative change that Goodness of Fit could indirectly evaluate convergent effect that was represented by the extracted mean variance when the structural model remains unchanged. Hair et al. (2010) believed that the comprehensive reliability (CR) value should be greater than 0.7 and above, indicating that the structure was reliable. Additionally, the average variance extraction (AVE) must be greater than 0.5, indicating the convergence effectiveness. In Table 3, all estimates are acceptable at the cutoff points with structural reliability greater than 0.7 and at the cutoff points with extracted mean variance greater than 0.5.

Table 3 Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	CA	Factors Loading	S.E.	T-value >1.98 & p-value<0.5	CR	AVE
Convenience (C)	Colwell et al. (2008)	4	.821	0.679–0.757	0.053–0.056	14.881***–16.649***	0.822	0.537
Benefit (B)	Wu and Wang (2006)	4	.838	0.714 – 0.797	0.051–0.054	16.071***–18.056***	0.839	0.566
Self-efficacy (SL)	Eom (2012)	4	.846	0.735 – 0.786	0.057–0.061	16.290***–17.460***	0.846	0.580
Student Engagement (SE)	Cain et al. (2015)	8	.923	0.702 – 0.877	0.037–0.043	18.770***–27.011***	0.911	0.563
Flexibility (F)	Sahin and Shelley (2008)	4	.808	0.664 – 0.798	0.055–0.059	14.507***–15.753***	0.855	0.598
Perceived Usefulness (PU)	Ajzen and Fishbein (1980), Davis (1989)	4	.908	0.805 – 0.945	0.045–0.048	21.278***–26.548***	0.911	0.720
Satisfaction (S)	Sahin and Shelley (2008)	5	.888	0.692 – 0.820	0.045–0.048	16.735***–20.899***	0.883	0.601
Intention (I)	Mols (1998)	4	.895	0.776 – 0.933	0.048–0.050	19.251***–23.943***	0.898	0.689

Note: CA = Cronbach's Alpha, CR = Composite Reliability, AVE = Average Variance Extracted
*** = Significant at the 0.05 significant levels ($p<0.05$)
Source: Created by the author

The square root of the extracted mean variance determined that all correlations were greater than the corresponding correlation value of the variable, as shown in Table 4. In addition, GFI, AGFI, CFI, NFI, TLI and RMSEA were used as indicators for model fitting to verify convergence validity and discriminant validity.

Table 4 Discriminant Validity

Factor Correlations

Variable	C	B	SL	SE	F	PU	S	I
C	0.732							
B	0.551	0.753						
SL	0.562	0.649	0.761					
SE	0.39	0.59	0.507	0.777				
F	0.386	0.532	0.438	0.712	0.717			
PU	0.482	0.411	0.411	0.494	0.395	0.848		
S	0.592	0.708	0.623	0.689	0.645	0.565	0.775	
I	0.304	0.321	0.366	0.475	0.421	0.388	0.547	0.83

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author

The fit values of this study were shown in Table 5, which were all greater than acceptable values. The convergence validity and discriminant validity were guaranteed. In addition, these model measurements were used to verify the convergence and discriminant validity of structural model estimation.

Table 5 Goodness of Fit for Confirmatory Factor Analysis (CFA)

Index	Acceptable Values	Values
CMIN/DF	< 3.00 (Hair et al., 2010)	1.737
GFI	≥ 0.80 (Greenspoon & Saklofske, 1998)	0.904
AGFI	≥ 0.80 (Forza & Filippini,1998)	0.887
CFI	≥0.90 (Hair et al., 2010)	0.962
NFI	≥ 0.90 (Arbuckle, 2008)	0.915
TLI	≥ 0.90 (Vandenberg & Scarpello, 1994)	0.945
RMSEA	< 0.08 (Browne and Cudeck,1993)	0.038

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, CFI =comparative fit index, NFI = normalized fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation
Source: Created by the author

4.3. Structural Equation Model (SEM)

Cadell et al. (2003) described that structural equation modeling (SEM) not only verify the measurement model, but also measure the Goodness of Fit index of the

structural model. Jaccard and Wan (1996) posted that SEM can solve the inherent difficulty of multiple regression analysis in which measurement errors caused by multiple interactions. As shown in Table 6, the Goodness of Fit index of the structural equation model was measured. For Chi-square/Degree of Freedom (CMIN/DF) ratio, the model fit measure should not exceed 3, and GFI and AGFI should be higher than 0.8 (Greenspoon & Saklofske, 1998; Forza & Filippini, 1998). In SEM, SPSS AMOS was applied to calculate and adjust the model. As a result, the fitting values as shown in Table 6 were all acceptable including CMIN/DF = 1.768, GFI = 0.901, AGFI = 0.885, CFI = 0.960, TLI = 0.956, NFI = 0.912 and RMSEA = 0.039.

Table 6 Goodness of Fit for Structural Equation Model (SEM)

Index	**Acceptable Values**	**Values**
CMIN/DF	< 3.00 (Hair et al., 2010)	1.768
GFI	≥ 0.80 (Greenspoon & Saklofske,1998)	0.901
AGFI	≥ 0.80 (Forza & Filippini,1998)	0.885
CFI	≥0.90 (Hair et al., 2010)	0.960
TLI	≥ 0.90 (Vandenberg & Scarpello, 1994)	0.956
NFI	≥ 0.90 (Arbuckle, 2008)	0.912
RMSEA	< 0.08 (Browne and Cudeck,1993)	0.039

4.4. Testing Result of Research Hypothesis

Regression weights and R2 variance calculated the significance of each variable. All hypothesis results of the structural model in Table 7 were significantly supported when p = 0.05. Satisfaction has the strongest effect on

Hypotheses	**Paths**	**Standardized Path Coefficients (β)**	**S.E.**	**T-Value**	**Tests Result**
H1	S<---C	0.142	0.054	2.958**	Supported
H2	S<---B	0.260	0.061	4.581***	Supported
H3	S<---SL	0.121	0.061	2.364*	Supported
H4	S<---SE	0.220	0.056	3.899***	Supported
H5	S<---F	0.184	0.067	3.314***	Supported
H6	S<---PU	0.171	0.035	4.267***	Supported
H7	I<---S	0.562	0.045	12.182***	Supported

the intention at β = 0.562, followed by benefit (β = 0.260), student engagement (β = 0.220), flexibility (β = 0.184), perceived usefulness (β = 0.171) and convenience (β = 0.142). Accordingly, all estimates were supported.

The results in Table 7 are explained further in this part. H1 demonstrates convenience as one of the key factors of satisfaction, revealing the standard coefficient value of 0.142 in the structural path. Bansal et al. (2004) illustrated that convenience must be fully considered to improve students' satisfaction with online learning and their willingness to take action. For H2, the analysis results support the significant effect of benefits on satisfaction with a standard coefficient value of 0.260. The empirical research of Wu and Wang (2006) showed that perceived system benefits positively impact users' satisfaction with engaging in online learning. H3 assumes the significant influence of self-efficacy on satisfaction, and the standard coefficient value obtained was 0.121. Researchers confirmed that acquiring knowledge, skills, and intrinsic motivation can lead to goal accomplishment (Bakker et al., 2011). H5 is proof of the flexibility influence on satisfaction with the standard coefficient value of 0.184. Zhang & Kim (2019) verified that flexibility in goal setting is an external factor of competitive advantage that can improve users' satisfaction. H6 states the impact of perceived usefulness on satisfaction and the standard coefficient value was 0.171. Wen et al. (2011) viewed usefulness as the determinant of user satisfaction which aligns with the results. H7 displayed the significant effect of satisfaction on intention with a standard coefficient value of 0.562. Bodet (2008) argued that satisfaction is an attitude component and reflected as one of the main predictors of user willingness. In summary, these findings support the previous literature that satisfaction has the strongest effect on intention which means that students who are satisfied with all aspects of online learning are willing to adopt the system.

5. Conclusion and Recommendation

5.1. Conclusion

This paper mainly investigates the factors of online learning satisfaction and behavioral intention among college students in China during COVID-19. All hypotheses were proposed as the conceptual framework of how convenience, benefit, self-efficacy, student engagement, flexibility, and perceived usefulness significantly impact online learning satisfaction and intention. The quantitative approach was applied with a questionnaire design. The multistage sampling technique employed nonprobability sampling with judgmental sampling to select art and design students who have been experiencing online learning during the outbreak from the top three private colleges in Sichuan, China. Later, probability sampling with stratified random sampling was applied to calculate the sample size of each group. Last, the convenience sampling was accounted to circulate survey offline and online. Prior to data collection, the validity test of Item-Objective Congruence Index (IOC) and reliability test of Cronbach's Alpha were used. Data analysis was deployed to explore the influencers of online learning satisfaction and behavioral intention. CFA was measured and tested the validity and reliability of the conceptual model. Afterwards, SEM was adopted to

assess relationship among variables. The results are that convenience, benefit, self-efficacy, student engagement, flexibility, perceived usefulness have a significant impact on satisfaction and intention. Satisfaction shows the strongest influence on online learning intention, followed by benefit, student engagement, flexibility, perceived usefulness, convenience and self-efficacy. In conclusion, all hypotheses are supported and considered to fulfil the research objectives.

5.2. Recommendation

During the epidemic period, this study concluded the determinants of satisfaction and behavioral intention towards online learning including convenience, benefit, self-efficacy, student engagement, flexibility, perceived usefulness, satisfaction and intention. Consequently, researchers suggest to strengthening these aspects for online learning adoption for better learning efficiency of learners. For literatures and practical implication, academic practitioners and teachers are required to consider development plans to promote online learning for enhancing students' satisfaction and behavioral intention. In this context, students can benefit from convenience (anytime and anywhere) of learning. Students are able to personalize their learning and gain more practical knowledge through field experiences such as internships, mentoring projects, and collaborative projects remotely. Students' learning satisfaction and behavioral intention are the prerequisites to adopt online learning in universities. In conclusion, the results of this study are useful for the academic management, functional departments of colleges and lecturers to measure and optimize the satisfaction and behavioral intention of students in online learning and realize the gradual improvement of relevant mechanism. For further clarification and examples, the school should gather results from satisfaction surveys to define the online learning adoption level for better development on some aspects such as developing system's ease of use, training on how to use online learning more effectively and building creative environment in online class i.e., vote, games and group activities to enhance student's engagement and satisfaction.

5.3. Limitation and Further Study

The limitations of this study are explained in this last section. Firstly, the population and sample were only scoped in art and design college students of the top three art and design universities in Sichuan Province, China. The different program, region or country of higher educations may produce different outcome. Secondly, further research can consider other related variables such as online teaching resources, teaching plan and teaching strategy, fairness and efficiency, team learning etc. to explore more drivers for the online learning adoption. Lastly, the methodology can be extended with the inclusion of qualitative approach i.e., interview, focus group etc. for deepen understanding the view of participants.

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