

**Marketing Communication and Logistics Performance Affect Consumers
Behavior on Skytrain Services Assessed by Students Living in
Pathumthani Province**

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Abstract

The purpose of this research study is to find key components in areas of marketing communication and logistics performance that affect consumer behavior on skytrain service in Pathumthani province. With the quantitative method, the survey technique is used to collect data from 400 respondents who are undergraduate students in Pathumthani province. The data analysis uses both descriptive and inferential statistics: frequency, percentage, mean, standard variation, chi-square and correlation. This study is sectional research as one period of time for data collection. It cannot reveal the trend of changing in main factors impacting consumer behavior. In addition, the findings of this research study cannot use for other transportation modes as the data are collected from skytrain customers. The results show the consumer behavior affected by marketing communication: advertising, sales promotion, personal selling, public relation, and direct marketing. In addition, the consumer behavior is affected by logistics performance with low cost, comfort, on-time, and safety. Also, the consumer behavior has relationship with logistics performance at the significance level of 0.05. Focusing on main

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factors, transportation service operators can implement right strategies to increase the number of users of skytrain service.

Keywords: Personal Profiles, Marketing Communication, Logistics Performance, Consumer Behavior, Skytrain

Introduction

Pathumthani province have buses, minibuses, rural trains, skytrain, and motorcycles in service. During the peak hours, some areas in Pathumthani province, such as industrial estates, universities, have traffic congestion. However, people have many choices of transportation service to select. Skytrain will be a convenience service for them as commuting between work places and homes. This transportation type can bring them to Bangkok downtown quickly.

Skytrain has complicate network. Passengers can travel to offices, department stores, and city parks with the skytrains. Some of skytrain lines have opened for the service recently. It can make the passengers more convenient. The skytrain services comprise with train, railway, stations, and other facilities. The skytrain service needs to have commitment with the society in many dimensions: quality, safety, reliable, and efficient services. Team staff needs to be well-trained. They will be able to communicate, monitor, review and consult with their teams. Their goal that is customer satisfaction will achieve.

In this research focus in two skytrain lines: red line and green line. The red line operated by state railway of Thailand starts at Bang Sue station and ends at Rangsit station. Passengers, who are students, businesspeople, etc., are convenient as transiting to green line at Bang Sue station. Also, at the Rangsit station, the passengers can take off, and then go to many places nearby, such as universities, offices, shops, department stores, etc. The green line has

very extended network. This research just scopes part of the green line that starts at Bang Sue station and ends at Khu Khot station. This line also can bring people to many main locations. However, the green line has a big issue on the news. At this time, the Bangkok Train System company (BTS) operates this line under the concession contract. This contract will end in next five years. Bangkok Metropolitan Administration (BMA) has to pay off 23 billion baht in debt to BTS (The Nation Thailand, 2024). So, BMA needs to have to focus in both ways: 1) offering good services to its passengers and 2) Break-even points of the business.

The skytrain is a large business. The profits are very crucial. And one way to generate more profit is having many types of tickets offered for skytrain services. These tickets can serve customers' different needs. Single journey card is used for one-way trip. It is valid on the day of purchase only. One-day pass is unlimited rides on the day of purchase (price of 150 baht). Rabbit card is electronic payment system that can be used to pay for skytrain pass and other transportation fees. Standard Rabbit card has two types. Student Rabbit card is for full-time students in schools and universities in Thailand and foreign countries in the list from Ministry of Education. They must be under 23 years old. Senior Rabbit card is for Thai senior people who are 60 years old or over. Passengers can add money to the cards for both monthly tickets and one-way tickets. They can save time as they do not have to buy a ticket every time before getting on the skytrain. Many stores give special offer with card holders. The card has no annual fees (Bangkok Smartcard System, 2020). In this study, the preference of ticket types is one of the customer behavior elements.

From the data above, the red-line has very low number of passengers. This is the key problem situation for this study. Even though the green-line is quite successful, the number of passengers may be impacted by starting to collecting fares for both extension lines (15 baht each) in 2024 (PPTV Online, 2023). In addition, this skytrain line is close to many universities in Pathumthani province, such as Rangsit University, Bangkok University, Thammasat University. The company needs to know these customer behaviors to improve its services. The

researcher aims to find all of main factors that affect the customer behavior of using the skytrain line. The skytrain operator can bring this research results to improve its facilities and services.

Objectives

1. To identify personal profiles of undergraduate students living in Pathumthani province who give opinion about the skytrain.
2. To examine the effects of marketing communication and logistics performance on consumer behavior of undergraduate students using skytrain in Pathumthani province.
3. To investigate the relationship between marketing communication and logistics performance on skytrain services in Pathumthani province.

Literature Reviews

The literature review in this study is about marketing communication, business performance, and consumer behavior.

Marketing Communication

The marketing communication has two ways. The company can send messages to its customers. Also, the customers can communicate with the company. The effective communication can increase the customer satisfaction and generate sales revenues at the end. The marketing communication can help the company to build customer relationship. Having more customer relationship, the company can focus on five activities of marketing communication mix: advertising, sales promotion, personal selling, public relations, and direct marketing (Manisha, 2012; Kotler & Armstrong, 2010). Interestingly, all of these activities are used on the service marketing. All departments in the company need to be ready for implementing

marketing communication mix because their actions relating to these tools will impact on customer relationship management. All five activities of marketing communication are described as follows.

- a) Advertising can help any companies to show their products & services. It can make the customers feel good that they select the right choice in their purchasing. Old styles of advertising, such as advertising on TV, have been replaced by online advertising as it has more impact on the customer awareness. Interesting, many advertising is affected by the culture in that region.
- b) Sales promotion classified as a short-term marketing activity can help the company to increase sales volumes at that period. The sales promotion is very powerful as closing the sales quicker and having big sales volumes.
- c) Personal selling allows the company to communicate with its customers. This activity is also classified as the two-way communication. The salesperson can explain the customers about how to use the product properly and what the benefits of products are. Also, the company will get the feedbacks from the users. Any compliments or complaints can help you to identify which product functions or features need to be improved.
- d) Public relations can help a company to have better images. The company can join the community in any projects, such as reduce the pollution. The people feel good with the company and are willing to buy its products and services. The information flow is very important for public- relations activity. Online channel facilitates the company to share successful stories to its customers. They should know that the company is part of the project that make their life condition better.
- e) Direct marketing aims to offer products and services to each customer directly. The message for communicating with the customer will be tailored to fit with his or her preference. The sales department can start with the list of people who are interested in the products or services. Apparently, this activity will be time- consumed to screen the potential

customers from the database, and then prepare right product to serve them (The Open University, 2024).

Marketing communication is very important for all organizations. In the present days, social networks allow the organizations to more effectively use all elements of the marketing communication. They need to know how to create interesting contents. The reason is that these contents can become marketing viral. Possibly, their products can be sold-out within several hours.

Logistics Performances

Logistics performances are defined as the effectiveness of product and service delivery in quantity and time that can meet the customers' needs. The logistics performances can be measured by five items that are speed of delivery, flexibility, order fulfillment, quick-responded, and delivery reliability (Bavarsad, Azizi & Alesadi, 2013).

As mentioned by Chow, Heaven and Henrikson (1994), the logistics performances are concerned with storing and delivering of raw materials and finished goods among supply chain members. The measurement items of logistics performances are costs, sales, profits, contracts on production, customer satisfaction, order fulfillment, delivery time, CSR, serving the customers' needs, lowering costs, and flexibility (Piriyakul & Kerdpitak, 2011).

Logistics performances are measured by the capability of delivery, costs of logistics activities, and capital management. The capability of delivery is classified into delivery lead time and on-time delivery. Main logistics costs are transportation and inventory costs. The capital management is needed in most departments in any company, such as inventory of raw materials and finished products (Forslund, 2011).

Key performance indicators are an important tool to make sure that the company can reach its long-term goal. Making employees pay more attention on important activities, top executives need to select and group effective indicators. It is necessary that the company needs to build strategies and objectives first, and then, KPIs can be developed. The company can use

various performance frameworks to use KPIs for daily and policy management. Performance dashboards and scorecards can be used as well (Marr, 2012).

Having a good set of KPIs is essential as companies can reach targets of action plans. KPIs of the companies can be revised year by year. This allows their business operations to be more flexible and responsive. Also, they can cut costs at the same time.

Consumer Behavior

A company in the market needs to understand consumer behavior. Consumer behavior is “the study of how individuals, groups, and organizations select, buy, use, and dispose of goods, services, ideas, or experiences to satisfy their needs and wants. Marketers must fully understand both the theory and the reality of consumer behavior” (Kotler & Keller, 2016).

Consumer behavior is demonstrated in the model in Figure 1. Marketing stimuli gets into the consumers’ minds. The consumer psychology combined with consumer characteristics affects buying decision process and purchase decision. The company needs to understand their consumer awareness when they perceive the marketing stimuli and the purchase decision. This research study focuses on the purchase decision as the final stage of consumer behavior comprising product choice, brand choice, dealer choice, purchase amount, purchase timing, and payment method.

Marketers should clearly understand consumer behavior model. It starts with marketing techniques and ends at purchase decision. Consumer behavior elements, which are embedded this model, can be changed. For example, shops want to promote its products and services to increase the frequency of purchasing.

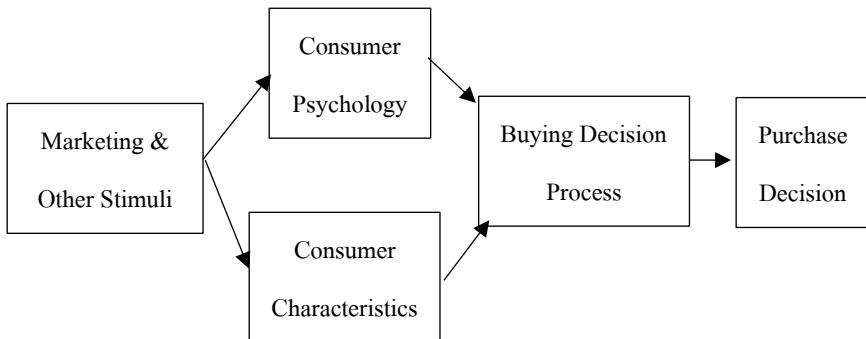


Figure 1 Model of consumer behavior (Modified from Kotler & Keller, 2016)

Green and red skytrain line

The students living or studying in the Pathumthani province can get on the skytrains on red line and green line (Figure 2 and 3). The skytrain fees for green line are 17 to 47 baht and plus 15 baht (if pass the line extension) in Table 1. In 2023, the number of passengers, who used this skytrain line, was 264,066,131. The skytrain fees for red line are collected in different rates: adult (12 to 42 baht), student (11 to 38 baht), and senior (6 to 21 baht) (State Railway of Thailand in Electrified Train Company, 2024). In 2023, the number of passengers, who used this skytrain line, was 7,835,605. In addition, the total number of skytrain passengers was 464,174,569 (Department of Rail Transport, 2023).

Table 1 Fees for traveling on the green-line skytrain

Number of stations (passenger travels)	0	1	2	3	4	5	6	7	8 up	Extended Line
Fee (baht)	17	17	25	28	32	35	40	43	47	+15

(Source : The Standard Team. 2024)

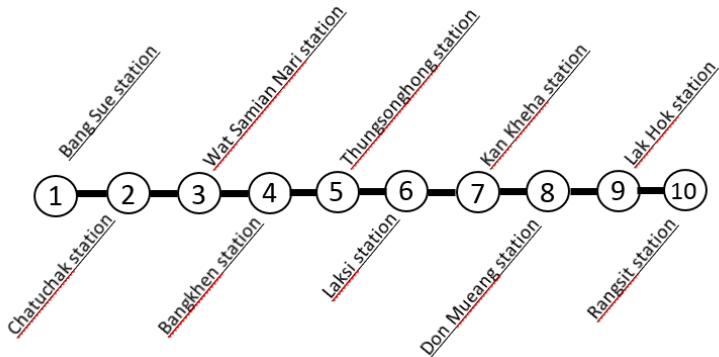


Figure 2 Red-line skytrain route destination at Pathumthani province

Dark Green Line Extension Project Mo Chit - Saphan Mai - Khu Khot

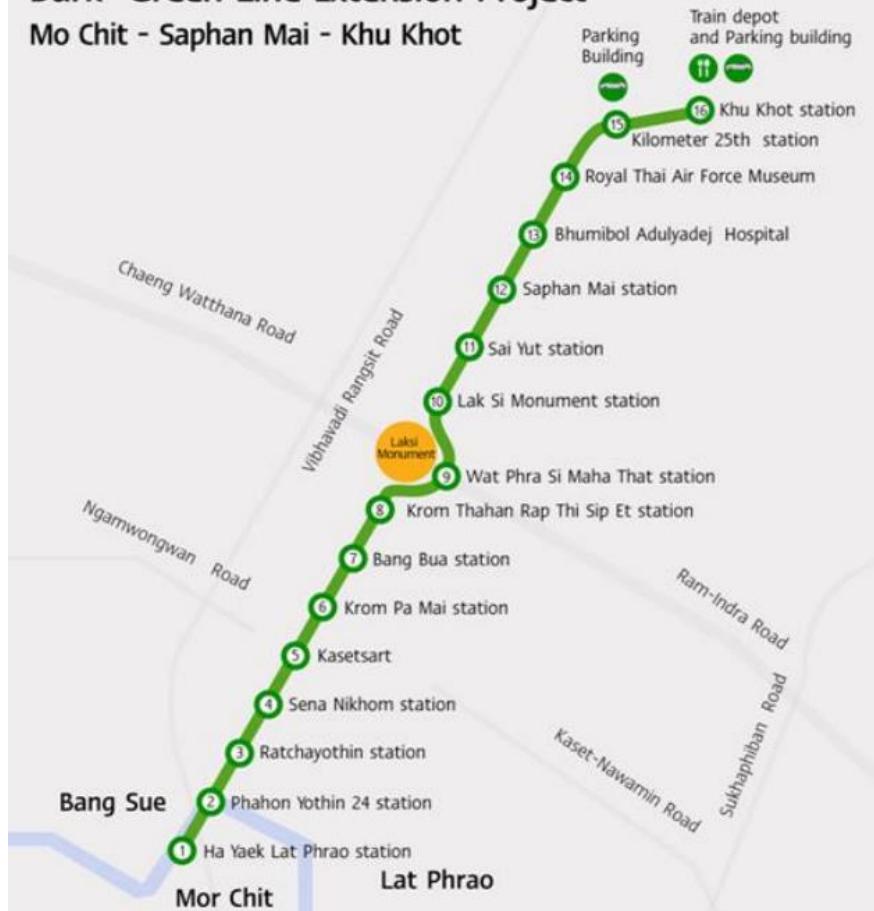


Figure 3 Green-line skytrain route destination at Pathumthani province

(Source : Siam Commercial Bank in Economic Intelligence Center. 2014)

Conceptual Framework

The conceptual framework in this paper as presented in Figure 4 is extracted from various theories and concepts in the literature review.

In this research, there are three hypotheses that need to be investigated. These hypotheses are shown as follows.

H1: Marketing communication affects consumer behavior of students living in Pathumthani province.

H2: Logistics performance affects consumer behavior of students living in Pathumthani province.

H3: Marketing communication has relationship with logistics performance.

All hypotheses are also presented in the conceptual framework (Figure 4). These hypotheses will be tested with statistical techniques. In this study, the significance level is 0.05. In case that the p-value of a selected statistical tool is less than 0.05. That means that the hypothesis is true.

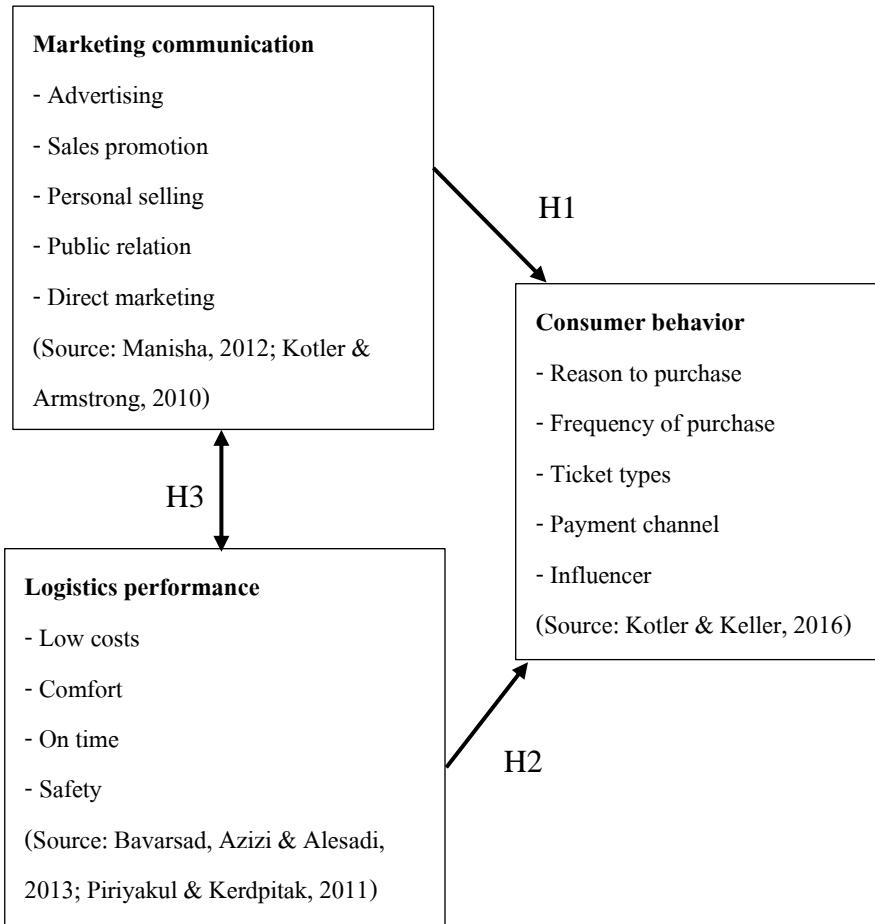


Figure 4 Conceptual framework of this research

Methodology

In this study, the quantitative research is used. This allows to use various statistical tools to obtain research results (Gries, 2024).

Population and Samples

Students in different educational levels in Pathumthani province use skytrain services, however this research study focuses on undergraduate students. Population in this research study is undergraduate students in Pathumthani province. However, the number of population cannot be found. So, calculation of the sample size needs to use the mathematics formula by W.G. Cochran (Maple Tech International, 2020)

$$n = Z^2 P (1-P) / e^2 = 1.96^2 * 0.5 (1-0.5) / 0.05^2 = 384.16$$

Where n = sample size

Z = Z score

e = margin of error

P = population proportion (Assume=0.5)

The sample size from the calculation is 385. To make it easier for the data collector, 400 samples are collected with the convenience sampling technique.

Measurement Instrument

This research uses a survey by questionnaire as a quantitative research technique. The questions in the first section of questionnaire are respondents' demographic data (using normal and ordinal scales). The second section of questionnaire covers the area of marketing communication: advertising, sales promotion, personal selling, public relation, and direct marketing (Manisha, 2012; Kotler & Armstrong, 2010). All of these measurement items use a five-point Likert scale ranging from 1 (lowest level) to 5 (highest level). Each of score levels is explained as follows.

Score interval	Score levels
1.00 – 1.80	Lowest
1.81 – 2.60	Low

2.61 – 3.40	Middle
3.41 – 4.20	High
4.21 – 5.00	Highest

The range of each score level is 0.8.

The third section is logistics performance: low costs, comfort, on-time, and safety (Bavarsad, Azizi & Alesadi, 2013; Piriyakul & Kerdpitak, 2011). All of the measurement items use a five-point Likert scale ranging from 1 (lowest level) to 5 (highest level). The fourth section is consumer behavior: reason to purchase, frequency of purchase, ticket types, payment channel, and influencer (Kotler & Keller, 2016). All of measurement items use nominal and ordinal scales. The fifth section is an open-ended question used to gather more opinions from the respondents.

Instrument Reliability and Validity

Before collecting the data, the reliability values of measurement items in the questionnaire needs be calculated. The reliability values are calculated by Cronbach's alpha that needs to exceed 0.7 (Hair, Black, Babin, Anderson & Tatham, 2006). The results of all Cronbach's alpha values are more than 0.7 as presented in Table 2.

This research uses content validity. The senior professor in the marketing department as the consultant of this research reads through and gives the suggestion to improve the questionnaire.

Table 2 Cronbach's alpha of the variables in the conceptual framework

Variables	Cronbach's alpha
Marketing communication	0.847
Logistics performance	0.773

Table 3 Item-total statistics of measurement items of marketing communication

	Scale Mean	Scale	Corrected Item-	Cronbach's Alpha
	if Item Deleted	Variance if Item Deleted	Total	
			Correlation	
Advertising	15.30	7.019	.523	.848
Sales promotion	15.48	5.859	.775	.782
Personal selling	15.49	6.160	.728	.796
Public relation	15.79	6.239	.566	.845
Direct marketing	15.38	6.397	.712	.802

Table 4 Item-total statistics of measurement items of Logistics performance

	Scale Mean	Scale	Corrected Item-	Cronbach's
	if Item Deleted	Variance if Item Deleted	Total	Alpha if Item Deleted
			Correlation	
Cost saving	12.19	4.017	.459	.809
Comfort	11.94	4.342	.609	.703
On time	12.04	4.311	.641	.688
Safety	11.88	4.517	.666	.685

Data Collection

This research study uses convenience sampling. The respondents are undergraduate students in Pathumthani province.

Data Analysis

Statistical tools are used for data analysis. Frequency, percentage, mean, and standard deviation are for descriptive analysis. Chi-square test and correlation as inferential analysis can test the research hypotheses. Calculating the correlation coefficient (r) between the independent variable (marketing communication) and the dependent variable (logistics performance). The levels of correlation are presented in Table 5.

Table 5 Range of correlation coefficient values and the corresponding levels of correlation

Range of correlation coefficient values	Level of correlation
0.80 to 1.00	Very strong positive
0.60 to 0.79	Strong positive
0.40 to 0.59	Moderate positive
0.20 to 0.39	Weak positive
0.00 to 0.19	Very weak positive

(Source : Meghanathan. 2016)

Results

1. Descriptive research results

Personal profiles are presented in Table 6. Most respondents have following profiles. They are female (213 respondents or 53.2%) and studying in the second year of undergraduate program in the university (164 respondents or 41.0). Their grade ranges are 3.00

to 3.49 (139 respondents or 34.8%). The range of their expenses is 201 to 300 baht a day (114 respondents or 28.5%). They are not staying with parents during studying in the university (289 respondents, 72.3%). Their home is located in Amphoe Mueang in Pathumthani province (274 respondents or 68.5%).

Table 6 Personal profiles of the respondents

Personal profiles of the respondents	Frequency	Percent
Gender		
Male	187	46.8
Female	213	53.2
Total	400	100.0
Study level		
Year 1	38	9.5
Year 2	164	41.0
Year 3	146	36.5
Year 4	52	13.0
Total	400	100.0
Grade		
Less than 2.50	38	9.5
2.50 to 2.99	121	30.3
3.00 to 3.49	139	34.8
3.50 or higher	102	25.5
Total	400	100

Table 6 (Continued)

Personal profiles of the respondents	Frequency	Percent
Daily expense		
Less than 100 baht	5	1.3
100 to 150 baht	96	24.0
151 to 200 baht	100	25
201 to 300 baht	114	28.5
Higher than 300 baht	85	21.3
Total	400	100
Living condition		
Stay with parents	111	27.8
Not stay with parents	289	72.3
Total	400	100.0
Amphoe		
Pathumthani	274	68.5
Lamlukka	60	15.0
Khlongluang	10	2.5
Thanyaburi	29	7.2
Others	27	6.8
Total	400	100.0

Table 7 Descriptive data of consumer behavior

Purchase decision	Frequency	Percentage
Reasons of using skytrain		
- Station location	91	22.8
- Fees	78	19.5
- Time table of skytrain	8	2.0
- Reduce travel time	198	49.5
- Feel safe	19	4.8
- Others	6	1.5
Total	400	100.0
Frequency of using skytrain each day		
- Less than 1 time/day	247	61.8
- 1 time/day	66	16.5
- 2 time/day	64	16.0
- 3 time/day or more	23	5.8
Total	400	100.0
Preference of ticket types		
- One-trip ticket	275	68.8
- One-day ticket	18	4.5
- Rabbit card	104	26.0
- Other cards	3	.8
Total	400	100.0
Channels to buy a ticket		
- Rabbit line pay	102	25.5
- Vending machines at skytrain stations	116	29.0
- Shops	19	4.8
- Vending machines of private companies	8	2.0
- Bank and cards	152	38.0
- Others	3	.8
Total	400	100.0

Table 7 (Continued)

Purchase decision	Frequency	Percentage
Influencers		
- Yourself	304	76.0
- Family	26	6.5
- Friend	54	13.5
- Internet	16	4.0
Total	400	100.0

Table 7 demonstrates all elements of consumer behavior presented as follows. For reasons of using skytrain, reducing travel time is most selected (198 respondents, 49.5%). Considering the frequency of using skytrain each day, most respondents take the skytrain less than one time (247 respondents, 61.8%). In the preferences of ticket types, one-trip ticket is the first choice (275 respondents, 68.8%). Considering the channels to buy a ticket, buying on bank & credit card services is the most frequent (152 respondents, 38.0%). Considering the influencers of their transportation selection, they make a decision by themselves (304 respondents, 76.0%).

Table 8 Skytrain marketing communication

Marketing communication	Mean	SD.	Level
1. Advertising	4.06	0.720	High
2. Sales promotion	3.88	0.806	High
3. Personal selling	3.87	0.770	High
4. Public relation	3.57	0.887	High
5. Direct marketing	3.98	0.725	High
Total	3.87	0.618	High

In Table 8, marketing communication is scored at the high level (mean = 3.87, SD = 0.618). All dimensions of marketing communication are scored at the high level: advertising (mean = 4.06, SD = 0.720), direct marketing (mean = 3.98, SD = 0.725), sales promotion (mean = 3.88, SD = 0.806), personal selling (mean = 3.87, SD = 0.770), and public relation (mean = 3.57, SD = 0.887).

In Table 9, the logistics performance is scored at the high level (mean = 4.00, SD = 0.666). All dimensions of logistics performance are scored at the high level: safety (mean = 4.14, SD = 0.727), comfort (mean = 4.08, SD = 0.822), on-time (mean = 3.97, SD = 0.805) and cost saving (mean = 3.83, SD = 1.063).

Table 9 Logistics performance

Logistics performance	Mean	SD.	Level
1. Cost saving	3.83	1.063	High
2. Comfort	4.08	0.822	High
3. On-time	3.97	0.805	High
4. Safety	4.14	0.727	High
Total	4.00	0.666	High

2. Inferential research results

Hypotheses are tested with statistical tools in the computer system. This research has three hypotheses. The results are present as follows.

H1: Marketing communication affects consumer behavior

Marketing communication comprises advertising, sales promotion, personal selling, public relations, and direct marketing

Table 10 Chi-square test of marketing communication and consumer behavior

Chi-square test of Variable 1 and Variable 2		Chi-square value	p-value
1	Chi-square test of Advertising and		
	- Reason to purchase	41.638	0.003
	- frequency of purchase	39.285	0.000
	- Ticket types	35.395	0.000
	- Payment channel	34.769	0.021
	- Influencer	52.098	0.000
2	Chi-square test of Sales promotion and		
	- Reason to purchase	51.303	0.000
	- frequency of purchase	20.937	0.013
	- Ticket types	27.009	0.001
	- Payment channel	12.636	0.630
	- Influencer	5.113	0.824
3	Chi-square test of Personal selling and		
	- Reason to purchase	66.798	0.000
	- frequency of purchase	42.799	0.000
	- Ticket types	21.572	0.010
	- Payment channel	18.439	0.240
	- Influencer	13.609	0.137
4	Chi-square test of Public relation and		
	- Reason to purchase	34.981	0.020
	- frequency of purchase	49.162	0.000
	- Ticket types	64.772	0.000

Table 10 (Continued)

Chi-square test of Variable 1 and Variable 2		Chi-square value	p-value
- Payment channel		37.848	0.009
- Influencer		24.979	0.015
5	Chi-square test of Direct marketing and		
- Reason to purchase		22.996	0.084
- frequency of purchase		6.043	0.736
- Ticket types		18.496	0.030
- Payment channel		17.217	0.306
- Influencer		12.747	0.174

In Table 10 Chi-square tests between all elements of marketing communication and all elements of consumer behavior are presented. The Chi-square values and p-values are shown in this table. These tests reveal the relationship between items. Advertising has relationship with all items of consumer behavior (reason to purchase, frequency of purchase, ticket types, payment channel, and influence) at the significance level of 0.05. Sales promotion has relationship with these items of consumer behavior (reason to purchase, frequency of purchase, and ticket types) at the significance level of 0.05. Sales promotion has no relationship with payment channel and influencer. Personal selling has relationship with these items of consumer behavior (reason to purchase, frequency of purchase, and ticket types) at the significance level of 0.05. Personal selling has no relationship with payment channel and influencer. Public relation has relationship with all items of consumer behavior at the significance level of 0.01. Direct marketing has relationship with ticket types. Direct marketing has no relationship with the rest of items. Therefore, **H1 is true.**

H2: Logistics performance affects consumer behavior.

Logistics performance comprises low costs, comfort, on-time, and safety.

Table 11 Chi-square test of logistics performance and consumer behavior

	Chi-square test of Variable 1 and Variable 2	Chi-square value	p-value
1	Chi-square test of Low costs and		
	- Reason to purchase	60.016	0.000
	- Frequency of purchase	47.868	0.000
	- Ticket types	66.350	0.000
	- Payment channel	48.823	0.000
	- Influencer	18.653	0.097
2	Chi-square test of Comfort and		
	- Reason to purchase	25.378	0.045
	- Frequency of purchase	31.778	0.000
	- Ticket types	20.797	0.014
	- Payment channel	37.011	0.001
	- Influencer	21.325	0.011
3	Chi-square test of On-time and		
	- Reason to purchase	35.511	0.018
	- Frequency of purchase	63.336	0.000
	- Ticket types	28.631	0.004
	- Payment channel	39.878	0.005
	- Influencer	35.211	0.000

Table 11 (Continued)

	Chi-square test of Variable 1 and Variable 2	Chi-square value	p-value
4	Chi-square test of Safety and - Reason to purchase - Frequency of purchase - Ticket types - Payment channel - Influencer	28.109 53.560 36.745 43.425 21.796	0.021 0.000 0.000 0.000 0.010

In Table 11, Chi-square tests between all elements of logistics performance and all elements of consumer behavior are presented. The Chi-square values and p-values are shown in this table. These tests reveal the relationship between items. Low costs have relationship with these items of consumer behavior (reason to purchase, frequency of purchase, ticket types, and payment channel) at the significance level of 0.001. Low costs have no relationship with influencer. Comfort has relationship with all items of consumer behavior at the significance level of 0.05. On-time has relationship with all items of consumer behavior at the significance level of 0.05. Safety has relationship with all items of consumer behavior at the significance level of 0.05.

So, **H2 is true**. Logistics performance affects consumer behavior.

From the “True” results of H1 and H2 testing. These results response to the second objective of this study that is to reveal the effects of marketing communication and logistics performance on consumer behavior on skytrain in Pathumthani province.

H3: Marketing communication has relationship with logistics performance.

All components of marketing communication and logistics performance will be tested.

In Table 12, all of five elements of marketing communication have significant relationship with all dimensions of logistics performance at the significance level of 0.001. The results of correlation coefficient (r) are ranked from high to low as follows. Advertising has moderate positive correlation with total logistics performance ($r = 0.516$), comfort ($r=0.484$), and safety ($r=0.441$). Sales promotion has moderate positive correlation with total logistics performance ($r=0.540$), safety ($r=0.523$), and comfort ($r=0.498$). Personal selling has moderate positive correlation with comfort ($r=0.511$), safety ($r=0.510$), and total logistics performance ($r= 0.502$). Public relation has weak positive correlation with total logistics performance ($r=0.379$), on-time ($r=0.359$), and safety ($r=0.308$). Direct marketing has moderate positive correlation with safety ($r=0.582$), total logistics performance ($r=0.580$) and comfort (0.504). Lastly, total marketing communication has strong positive collaboration with total logistics performance (0.631), and moderate positive collaboration with safety (0.592) and comfort (0.575).

Table 12 Relationship between marketing communication and logistics performance

Marketing communication	Logistics performance				
	Low cost	Comfort	On-time	Safety	Total
	logistics performance				
Advertising	.314	.484	.400	.441	.516
Sales promotion	.260	.498	.462	.523	.540
Personal selling	.160	.511	.467	.510	.502
Public relation	.235	.301	.359	.308	.379
Direct marketing	.313	.504	.467	.582	.580
Total marketing communication	.322	.575	.543	.592	.631

Note : all p-values in this table are 0.000, except p-value of personal selling and low cost is 0.001.

In addition, skytrain marketing communication has strong positive correlation with customer behavior = 0.631 at the significance level of 0.001.

Thus, **H3 is true.** Marketing communication has relationship with logistics performance of Skytrain. This result responses to the third objective of this study that is to investigate the relationship between marketing communication and logistics performance on skytrain in Pathumthani province.

Discussion and Conclusion

This research collects the profiles of students studying in undergraduate programs in the university and living in Pathumthani province. Most respondents have following profiles. They are female and are studying in the second year of undergraduate program in the university. Their grade ranges are 3.00 to 3.49. The range of their expenses is 201 to 300 baht a day. They are not staying with parents during studying in the university. Their home is located in Amphoe Mueang in Pathumthani province. This finding is supported by the research paper of Srithong, Eadwaree, Najpinij and Thaweevachiraphat (2018). Those researchers found that the passengers were students or employees. The purpose of using skytrain was to go to universities or offices.

Marketing communication as an independent variable is scored at the high level. All dimensions of marketing communication are scored at the high level: advertising, direct marketing, sales promotion, personal selling, and public relation. This finding is supported by Chimphitak, Sungkhamanee, Techarattanased and Kongpan (2022). Advertisement is the key elements that bring awareness for consumers to new products and services. Their buying intention rises when they have more awareness. Logistics performance is scored at the high level. All dimensions of logistics performance are scored at the high level: safety, comfort, on-time and cost saving.

All elements of consumer behavior presented as follows. For reasons of using skytrain, reducing travel time is most selected. Considering the frequency of using skytrain each day, most respondents take the skytrain less than one time. In the preferences of ticket types, one-trip ticket is the first choice. Considering the channels to buy a ticket, buying on bank & credit card services is the most frequent. Considering the influencers of their transportation selection, they make a decision by themselves. This finding is supported by the research paper of Srithong et al. (2018). Those researchers noted that the number of days in

each month that passengers used skytrain equaled 21 days or more. However, the ticket type mentioned by Srithong et al. (2018) was Rabbit cards.

Advertising has relationship with all items of consumer behavior (reason to purchase, frequency of purchase, ticket types, payment channel, and influence). Sales promotion has relationship with these items of consumer behavior (reason to purchase, frequency of purchase, and ticket types). Sales promotion has no relationship with payment channel and influencer. Personal selling has relationship with these items of consumer behavior (reason to purchase, frequency of purchase, and ticket types). Personal selling has no relationship with payment channel and influencer. Public relation has relationship with all items of consumer behavior. Direct marketing has relationship with ticket types. Direct marketing has no relationship with the rest of items. Other research papers also support these findings. Soti (2022, p. 706) said, “Advertising plays a crucial role in influencing consumer behavior, as it has the potential to shape consumer perceptions, attitudes, and purchase decisions”. In addition, Chimphitak et al. (2022) noted that advertising strategies had strong relationship with purchase decision.

Logistics performance and all elements of consumer behavior are presented. Low costs have relationship with these items of consumer behavior (reason to purchase, frequency of purchase, ticket types, and payment channel). Low costs have no relationship with influencer. Comfort has relationship with all items of consumer behavior. On-time has relationship with all items of consumer behavior. Safety has relationship with all items of consumer behavior. Other research papers also support these findings. Bouhlel, Mzoughi, Hadjji and Slimane (2011) notes, “the relationships between the consumer’s perception of logistics’ efficiency, satisfaction and behavioral intention”.

This research study also reveals the effects of marketing communication and logistics performance on the customer behavior.

Five elements of marketing communication have significant relationship with all dimensions of logistics performance. Advertising has moderate positive correlation with total

logistics performance, comfort, and safety. Sales promotion has moderate positive correlation with total logistics performance, safety, and comfort. Personal selling has moderate positive correlation with comfort, safety, and total logistics performance. Public relation has weak positive correlation with total logistics performance, on-time, and safety. Direct marketing has moderate positive correlation with safety, total logistics performance and comfort. Lastly, total marketing communication has strong positive collaboration with total logistics performance, and moderate positive collaboration with safety and comfort. The work of Hong and Nguyen (2020) supports this study's findings. "An efficient marketing strategy is a critical contribution in any business success including logistics services sector. Understanding the marketing strategies existed and their driven work in logistics enterprises will increase the company's performance."

Recommendations

Academic areas

1. Classes in the university can focus on marketing communication that comprises five elements that are advertising, sales promotion, personal selling, public relation, and direct marketing. Nowadays, sellers can communicate with buyers via many channels such as social networks, instagram, tiktok. Information can be shared to the buyers living in different locations. Logistics performances are also important: comfort, low costs, on-time, and safety. This list can be shown in the general terms: quality, cost, time, safety or called in the short term "QCDS." Students need to well understand each element. From this research study, marketing communication and logistics performance have impact on consumer behaviors.

2. The seminar topics in transportation areas should more focus on concepts of marketing communication, logistics performances, and consumer behavior. From this research study, all of these terms are key success. The team staff in the organization can create action

plan aimed to improve them. Promisingly, their customer behaviors can be changed by introducing new marketing campaigns. However, the effective communication will drive the success. Also, logistics performances have various dimension. The organization needs unceasingly to improve them to complete with other competitors in the same industries.

Business areas

1. The BTS service should focus on five activities of marketing communication: advertising, direct marketing, sales promotion, personal selling, and public relation. The reason is that the marketing communication has relationship with customer behavior. Especially, advertising and public relation have relationship with all items of customer behavior. Possibly, the customers' frequency of purchase is higher when the company creates an interesting story in its advertisement or introduce the PR project in the community.

2. The BTS service needs to measure its four logistics performances: low costs, comfort, on-time, and safety. First, the company should cut costs. When skytrain timetable is effective, each train will be full of passengers. The company can save its energy. Second, the company should maintain train condition and service quality. Purchasing new trains is to replace the old ones periodically. Third, on-time is very important. The passengers expect the train arrive the station at exact time. If the company has on-time service, the passengers will be confident in the service.

3. The BTS marketing communication has the relationship with logistics performances. This shows that the company will have higher logistics performances if the budgets are allocated to marketing communication activities.

Future study

1. Main factors impact consumer behavior in other skytrain lines. The researcher can collect data from the following skytrain lines: yellow line, pink line.

2. Main factors impact customer behavior in other transportation modes in Thailand. Executives need to understand all aspects of customer behavior to help the company improve its key activities and can be successful in the long run.

3. Mixed research methods (quantitative and qualitative) for similar topics were used to collect and analyze data. The researcher can choose from two research designs. First, the explanatory sequential design starts with quantitative research and ends with qualitative research. Second, the exploratory sequential design starts with qualitative research and ends with quantitative research.

Limitations and Further Research Directions

This study is one time for data collection. Some researchers can collect data from many years to see the trends. In addition, some findings of this research study cannot use with other skytrain lines as the data are collected from under graduate students in Pathumthani province. So, other researchers focusing on the topic of customer behavior can use the same approach to study for different transportation modes. The further study can use qualitative research techniques. In-depth interview is an effective tool. Transportation service operators can implement right strategies to fit customer behavior.

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