

มหาวิทยาลัยวงษ์ชวลิตกุล

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เรื่อง บทบาทอุดมศึกษาไทย: การพัฒนาผู้เรียนและทรัพยากรมนุษย์ในยุค Disruptive Technology

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อธิการบดีมหาวิทยาลัยวงษ์ชวลิตกุล

ความพึงพอใจของผู้โดยสารต่อการใช้บริการรถโดยสารประจำทางเชียงใหม่อาร์ทีซี The Commuters' Satisfaction Toward RTC Chiang Mai City Bus Service

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บทคัดย่อ

จังหวัดเชียงใหม่ เป็นจังหวัดที่มีกิจกรรมทางเศรษฐกิจเกิดขึ้นมากเป็นอันดับต้น ๆ ของประเทศ อย่างไรก็ตาม ปัญหาด้านการคมนาคมยังคงเป็นปัญหาของจังหวัดเชียงใหม่ โดยเฉพาะการเดินทางโดยรถโดยสารสาธารณะ ในช่วงประมาณปี 2560 จึงได้มีการจัดตั้งรถโดยสารสาธารณะ RTC Chiang Mai City bus เพื่อตอบสนองความต้องการของประชาชนในพื้นที่อำเภอเมืองเชียงใหม่ จังหวัดเชียงใหม่ขึ้น ผู้วิจัยจึงได้ทำการศึกษาวิจัยลักษณะเฉพาะของผู้โดยสารรถประจำทางเชียงใหม่อาร์ทีซี (RTC Chiang Mai City bus) จากกลุ่มตัวอย่างทั้งหมด 4 สาย สายละ 40 คน รวม 160 คน ทั้งจากผู้ที่อยู่อาศัยประจำและไม่ประจำในจังหวัดเชียงใหม่ โดยมีวัตถุประสงค์เพื่อศึกษาลักษณะเฉพาะของผู้โดยสารที่มาใช้บริการ และระดับความพึงพอใจของผู้โดยสารต่อการใช้บริการรถโดยสารประจำทางเชียงใหม่อาร์ทีซี พบว่า ผู้โดยสารจำนวนมากเป็นเพศหญิง โสด และส่วนใหญ่เป็นนักเรียน นักศึกษา โดยลักษณะเฉพาะนี้ปรากฏเหมือนกันในทุก ๆ เส้นทางที่ได้ทำการศึกษา ในส่วนของระดับความพึงพอใจต่อการให้บริการ พบว่าผู้โดยสารมีความพึงพอใจในด้านความสะอาดและการเดินรถภายใต้กฎจราจรมากที่สุด อย่างไรก็ตาม ผู้โดยสารมีความพึงพอใจต่อการประชาสัมพันธ์และการแจ้งให้ทราบเมื่อเกิดเหตุขัดข้องน้อยที่สุด ซึ่งส่งผลต่อระดับความพึงพอใจด้านความตรงต่อเวลา และระยะเวลาที่ใช้ในการเดินทางต่อเที่ยวอย่างมีนัยยะสำคัญ

คำสำคัญ : เชียงใหม่, รถโดยสารสาธารณะ, ความพึงพอใจ

Abstract

Chiang Mai is a province that large number of economic activities have been occurring but transportation is still a chronic issues, especially, public transportation. However, in 2017, RTC Chiang Mai City bus has established to support people in Chiang Mai. Then, researcher studied about RTC Chiang Mai City bus's commuters' character and levels of satisfaction from sample size of 160 commuters; resident and non-residents; separate for 4 routes, 40 commuters each under 2 objectives. First, to study about RTC Chiang Mai city bus commuters' characters. Second, to study about level of commuters' satisfaction on RTC Chiang Mai city bus service. Most of RTC Chiang Mai City bus are number of female, single ones, and almost all of them are students. These character are the same from all four routes. In term of satisfaction about the services, most satisfied are cleanliness on board and drive drives under traffic law. By the way,

public relation and accident announcement are the less satisfied, and these two factors affect to score of punctual and time travelling are lower significantly.

Keywords : Chiang Mai, Public bus, Satisfaction.

1. Introduction.

Public transportation transform people way of living by spurring economic development, provide sustainable and high quality of life. There are number of public transportation but most used are rail and bus. (Statista, 2015) In 2017, there was mass transit carrying 53 billion passenger worldwide which increase from 2012 for 9 billion of passengers, most of that growth occurring in Asia, and the Middle East-North Africa region (Florida, 2018). And US people made their trip by bus for 50%, rail for 48% and 2% for the others in 2017. (Hughes and Dicken, 2018).

Apparently, people all around the world use more public transportation each years, especially in Asia. In Thailand, also, amount of passengers who travel by public transportation have increased since 2009 to 2015. Most use is BRT and then, BTS, airport rail link, and MRT. By the way, the information display BRT passenger had been decreasing more each years, even used most in overall viewing, but passenger who travel by BTS, airport rail link, and MRT keep increasing each year (TCIJ, 2018).

In Chiang Mai, there are many different kind of public transport to select for people living here; tri-wheel taxi or Tuk Tuk, Songthaew, red taxi and more; it really helpful for tourism and local people who didn't owned individual vehicle. (William, 2018) Moreover, some of Chiang Mai transportation such like Red taxi or Tuk Tuk are also famous among international tourists. (Annette, 2016; the crazy tourist, 2019) By the way, there is no service of public bus or BRT (Bus Rapid Transit) there even though it is the most used in America and many countries and tend to used much more in the future.

Public transports not only matter for Chiang Mai local people's choices of travel but also tourism industry. Information from travel and leisure displayed Chiang Mai is on the 3rd of the best cities in the world 2019 rank and the 2nd of the best cities in Asia 2019. Association of Thai travel agent revealed that even though total amount of tourists those who travel to visit Thailand have decreased and fluctuated during 2012 to 2015 but after that total amount of tourists raised again until present. Moreover, Chiang Mai is often in the top list about 'Thailand best destination' (William, 2018) and 'Best places to visit in Thailand' (Touropia, 2019). These evidences indicated that Chiang Mai is one of the destinations where most tourists would like to visit when they come to Thailand. By the way, there are inappropriate public transport to supports number of tourists without negative effect to local people. Related recently

sentence, MJU pole have published the survey result about 'What tourists worried in Chiang Mai most' and one of 5 issues that worried most is safety of transportation. Also, local people often got problem from traffic jam cause of Tuk Tuk parade (Yuwadee, 2014) and cluster of tourists in the down town side.

Decades ago, there was an effort to fix Chiang Mai traffic issues by founded public bus supported by cooperation of government and private institution but failed. Khwan Wiang bus owner, Amnaj Aksarawanich, who was participant the failure public bus project revealed that causes of Chiang Mai traffic issues were about benefit share and local behaviour. He said that red car taxi drivers started to protest after Khwan Wiang service had been starting only for 5 days and mentioned that they were taken income away because of public bus. Amnaj need to stop his plan to spread the service even though he has 15 buses that ready to use and lead to down-at-heel situation finally. Moreover, he said that users' behaviour is also an important issues that cannot neglect if government would like to raise public bus service again.

Until early 2018, however, Regional Transit Corporation Co.,ltd; city development companies joint venture with aim to developing downtown public transportation system; announced the plan to invest in downtown site of Chiang Mai public transportation with 50 million baht of budget in the form of Smart Bus again (Prachachat, 2018).

Thus, this research aim to study about commuters' character of Chiang Mai City Bus each routes. The character would provide information about to launches appropriate public relation and improvement further, especially, in term that service provider would like to escalate more tourism routes. Levels of satisfaction, then, provide service provider feedback about the service and aspects that would be an essential key that able to improve and support the raise of number of commuters in the future.

2. Objective.

There are 2 objectives in this paper are as follow

1. To study about RTC Chiang Mai city bus commuters' characters.
2. To study commuters' satisfaction toward RTC Chiang Mai city bus service.

3. Research methods.

3.1 Sample size and data collection

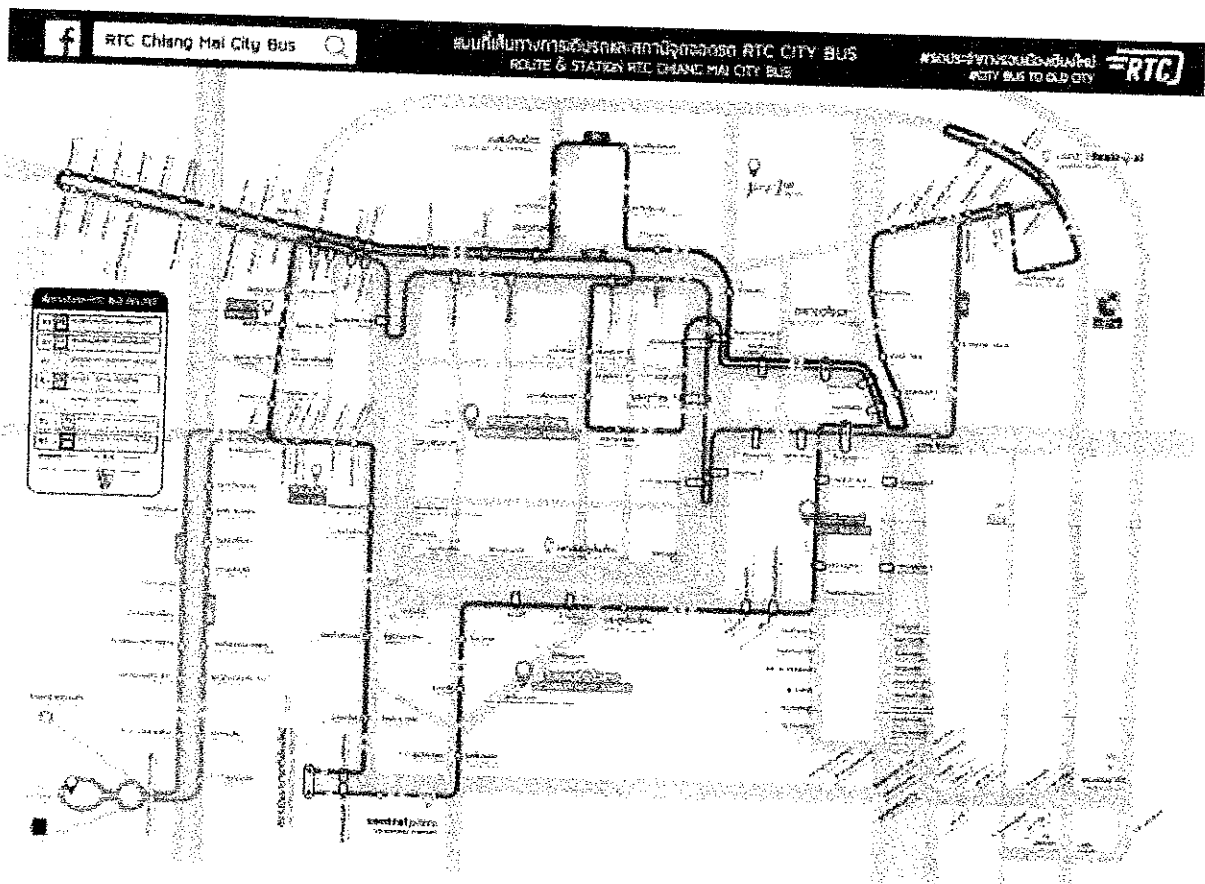
This research have studied in Mueang Chiang Mai district, Chiang Mai province where most economy activities and transportation have been occurring. The information have collected for 2 months, during December 2019 to January 2020 by questionnaires.

This research study from population that are RTC Chiang Mai City bus's commuter. The sample size in this research was calculated from Taro Yamane formula with 34,172 people of commuters. Primary information is used in this research and they were collected by questionnaire with residents and non-residents in Chiang Mai. Questionnaire consist of 2 major parts; personal information, and service satisfaction. Personal information, the first part, is relate to information providers' gender, age, levels of education, and about career. The next part, levels of satisfaction. This part consist of 11 categories of service; availability, accessibility, information, time, customer care, preference, comfortable, facility, security, environment impact, and payment; separate for 25 satisfaction items.

Refer to Yamane formula, sample size in this research is about 396 commuter; where $n=34,172$ commuters with error term set as 0.05 or 95% of confidence interval. However, researcher have done pre-survey before with 99 commuters and found that only 37% used RTC Chiang Mai city bus more than 4 times per week while the other used less than 4 times per week. With this information, researcher decided to study from the 37% commuters due to their highly frequency of used RTC Chiang Mai city bus would provide researcher intensive information. After calculated 37% with the sample size, 396 commuters, researcher had to collected information from 140 commuters to total. From pre-survey, also, researcher have found that about 5% of commuters each routes were tourists, with this reason, researcher collected more information from tourists accounted to 20 commuters each routes, calculated from 5% of sample size. Thus, researcher collected for 160 questionnaires to total.

The routes which focused are R1 Purple, R1 Green, R3 Red, and R3 Yellow. From pre-survey by researcher, R1 both Purple and Green routes, from the mall Central Festival to Chiang Mai zoo and vice versa, are the routes which used most from commuters due to this two routes are travel around the town and pass several land marks in Chiang Mai such like Taphae gate, Chiang Mai bus terminal (Arcade), Warorote market, Chiang Mai university, and many more. R3 both Red and Yellow routes, similar the R1 routes. From pre-survey, these 2 routes also travel around the town as R1 but in the other area of Mueang Chiang Mai and both 2 routes of R1 are leaving from Chiang Mai International airport as display in figure 1. There are lots of tourists, domestic and foreign tourists, travel from Chiang Mai International airport to the other parts of city. Also, many tourists and local need to travel by bus to Chiang Mai International airport. Thus, these are the reasons why researcher decided to focus on R1 and R3 routes.

Figure 1 RTC Chiang Mai city bus routes map



3.2 Data analysis

There are two major parts in questionnaire; commuters' character and commuters' levels of satisfaction. First, commuters' character, information in this aspect was analyzed as percentile and explained by descriptive. There will be generated for part of commuters' types; residents and non-resident; gender, age, level of education, marital, career, and income per month in overall and separated by routes.

In part of commuters' satisfied, there will be analyzed by Likert scale method searching for average score; full of 5; from 160 commuters, both residents and non-residents. After that compare to rating scale combined levels of satisfaction each aspects of service on average and separated by routes; score in satisfaction part generated for 5 levels when 5=the best, 4=good, 3=neutral, 2=not too good, and 1=unsatisfied. There are 25 items under 11 majority aspects of service satisfaction.

4. Result

Information from 160 commuters both residents and non-residents revealed that each routes have similar things are as follow.

Table 1 R1 Green route commuters' information

		Amount (person)	Percentile (%)			Amount (person)	Percentile (%)
Gender	Male	12	30	Marital	Single	40	100
	Female	28	70		Married	0	0
Education	School	4	10		Others	0	0
	High school	0	0	Career	Student	34	85
	Bachelor	33	82.5		Others	6	15
	Higher than bachelor	2	5				
	Others	1	2.5				

Table 1 represent information of commuters from R1 Green route, they are age between 15 and 32 years old. 70% of them are female, 82.5% graduated bachelor degree, 85% are student and whole commuters from R1 Green route are single while average income is 9,381.58 baht between 50,000 baht and 3,000 baht.

Table 2 R1 Purple route commuters' information

		Amount (person)	Percentile (%)			Amount (person)	Percentile (%)
Gender	Male	14	35	Marital	Single	39	97.5
	Female	26	65		Married	1	2.5
Education	School	0	0		Others	0	0
	High school	4	10	Career	Student	30	75
	Bachelor	30	75		Others	10	15
	Higher than bachelor	6	15				
	Others	0	0				

Table 2 represent information of commuters from R1 Purple route, they are age between 16 and 45 years old. 26% of them are female, 75% graduated bachelor degree, 97.5% of commuters are single and 75% are students while average income is 11,460.53 baht between 40,000 baht and 3,000 baht.

Table 3 R3 Red route commuters' information

		Amount (person)	Percentile (%)			Amount (person)	Percentile (%)
Gender	Male	9	22.5	Marital	Single	39	97.5
	Female	31	77.5		Married	0	0
Education	School	0	0		Others	1	2.5
	High school	2	5	Career	Student	29	72.5
	Bachelor	33	82.5		Others	11	27.5
	Higher than bachelor	5	12.5				
	Others	0	0				

Table 3 represent information of commuters from R3 Red route, they are age between 18 and 41 years old. 77.5% of them are female, 82.5% graduated bachelor degree, 97.5% are single and 72.5% are students while average income is 13,075 baht between 50,000 baht and 3,000 baht.

Table 4 R3 Yellow route commuters' information

		Amount (person)	Percentile (%)			Amount (person)	Percentile (%)
Gender	Male	14	35	Marital	Single	38	95
	Female	26	65		Married	2	5
Education	School	0	0		Others	0	0
	High school	5	12.5	Career	Student	31	77.5
	Bachelor	27	67.5		Others	9	22.5
	Higher than bachelor	7	17.5				
	Others	1	2.5				

Table 4 represent information of commuters from R3 Yellow route, they are age between 19 and 39 years old. 65% of them are female, 67.5% graduated bachelor degree, 95% are single and 77.5% are students while average income is 14,010 baht between 80,000 baht and 900 baht.

Satisfaction levels is calculated for average score from commuters each routes; R1 Green, R1 Purple, R3 Red, and R3 Yellow that display in table 5. In overview of service satisfaction, most score each aspects that rated by commuters are between 3.03 to 3.98, however, there are some aspects that rated with different score. They are aspect of getting in & off bus, public relation, accident announcement, seat comfort, cleanliness, temperature on board, and driving under traffic law.

With more deeper details, commuter satisfied on cleanliness most then follow by seat comfort that in the same level with driving smoothly, getting in and off bus then temperature on board with score 4.25, 4.16, 4.16, 4.05, and 4 while public relation and accident announcement are rated with score 2.97 and 2.96.

To focus by route, average score of cleanliness is 4.25. The highest score, 4.45, was from R3 Yellow, then got 4.3 from R3 Red, 4.18 from R1 Purple, and 4.08 from R1 Green. The second highest score are seat comfort and driving under traffic law, 4.17. For seat comfort, the highest score is 4.25 from R3 Yellow then 4.18 from R1 Purple, 4.15 from R3 Red, and 4 from R1 Green. In the same time, the highest score of driving under traffic law aspect is 4.33 from R3 Yellow, then 4.2 from R3 Red, 4.15 from R1 Purple, and 4 from R1 Green. The third one, getting in & off bus, average score is 4.05 but the highest score is 4.15 from R3 Red, then, 4.08 from R1 Purple, 4.03 from R3 Yellow and the last one of this aspect is 3.95 from R1 Green. The last aspect in highest rank is temperature on board with score 4.01. The highest score in this aspect is 4.23 from R3 Yellow, then, 4.08 from R3 Red, 3.98 from R1 Purple, and 3.75 from R1 Green.

However, there are two aspects that have lowest score, accident announcement with 2.96 and public relation with score 2.98. In term of accident announcement, even average score is 2.98 but when focus by routes, the lowest score is 2.8 from R3 Red, then, 3.03 from R1 Green and R3 Yellow, and 3.05 from R1 Purple. Average score of accident announcement is 2.96 but when focus by route, the lowest score is 2.9 from R1 Green, then, 2.93 from R3 Red, 2.98 from R1 Purple, and 3.03 from R3 Yellow.

Table 5 Commuters' satisfaction toward RTC Chiang Mai city bus service

Route		R1 Green	S.D.	R1 Purple	S.D.	R3 Red	S.D.	R3 Yellow	S.D.	Average
1	Amount of bus each route	3.50	-	3.48	-	3.58	-	3.43	-	3.49
2	Service expansion	3.53	0.02	3.53	0.04	3.55	0.02	3.45	0.02	3.51
3	Pick up route easiness	3.53	0.00	3.30	0.16	3.35	0.14	3.55	0.07	3.43
4	Get in/off bus	3.95	0.30	4.08	0.55	4.15	0.57	4.03	0.34	4.05
5	Stops physical	3.43	0.37	3.23	0.60	3.48	0.48	3.63	0.28	3.44
6	PR	3.03	0.28	3.05	0.12	2.80	0.48	3.03	0.42	2.98
7	Application	3.05	0.02	3.08	0.02	3.03	0.16	3.08	0.04	3.06
8	Information at stops	3.33	0.19	3.30	0.16	3.30	0.19	3.75	0.48	3.42
9	Information on board	3.28	0.04	3.18	0.09	3.35	0.04	3.40	0.25	3.30
10	Punctual	3.28	0.00	3.05	0.09	3.40	0.04	3.08	0.23	3.20
11	Time period	3.35	0.05	3.23	0.12	3.30	0.07	3.48	0.28	3.34
12	Accidents announcement	2.90	0.32	2.98	0.18	2.93	0.27	3.05	0.30	2.96
13	Staff behaviour	3.90	0.71	3.88	0.64	3.98	0.74	3.93	0.62	3.92
14	Payment easiness	3.80	0.07	3.95	0.05	4.13	0.11	3.98	0.04	3.96
15	Frequency	3.53	0.19	3.28	0.48	3.40	0.51	3.40	0.41	3.40
16	Seat comfort	4.10	0.41	4.18	0.64	4.15	0.53	4.25	0.60	4.17
17	Cleanliness	4.08	0.02	4.18	0.00	4.30	0.11	4.45	0.14	4.25
18	Drive smooth	3.58	0.35	3.60	0.41	3.68	0.44	3.60	0.60	3.61
19	Temperature	3.75	0.12	3.98	0.27	4.08	0.28	4.23	0.44	4.01
20	Luggage	3.40	0.25	3.45	0.37	3.53	0.39	3.65	0.41	3.51
21	Children Elder Disability	3.85	0.32	3.85	0.28	3.78	0.18	3.78	0.09	3.81
22	Under traffic law	4.00	0.11	4.15	0.21	4.20	0.30	4.33	0.39	4.17
23	Crime at stops	3.25	0.53	3.53	0.44	3.55	0.46	3.40	0.65	3.43
24	Crime on board	3.18	0.05	3.53	0.00	3.40	0.11	3.35	0.04	3.36
25	Price	3.83	0.46	4.08	0.39	3.90	0.35	3.93	0.41	3.93
Average score		3.53		3.56		3.61		3.65		

5. Conclusion

From result, most commuters those who used RTC Chiang Mai City bus are student in bachelor degree. Especially R1 Green. Also, most of them are single female. In term of satisfaction, overall, commuters satisfied on bus cleanliness most then followed by seat comfort and driving under traffic law at the same score then way to get in and get off bus. As considering to commuters those used public bus in Stockholm, Oslo, Helsinki, and Copenhagen, their satisfaction on seat comfort were high than other factors even though commuters in Barcelona and Vienna most satisfy on travel time (Friman and Fellesson, 2009). However, outcome in this research completely different to commuters' satisfaction in Munich, commuters in Munich satisfy toward punctuality, reliability, network connection, and service frequency (Le-Klähn et.al., 2014). When focus by route, most aspects with highest score are from R3 Yellow route, so that we could say that most commuters have satisfied on R3 Yellow route than others. By the way, the less score are public relation and accident announcement. This two parts of information reveal that commuters not much satisfy on service PR and accident announcement from the organization or staffs, especially PR that could effects to amount of commuters further. Moreover, accident announcement significant affect to score of punctual and time travelling. Lateness due to accident completely leads to bus unpunctual and spend time to travel more than it supposed to be. And it caused of score of punctual and time travelling lower than 3.5 from 5 both each routes and in overall.

6. Suggestion

In this research, there are 2 majority parts of suggestion. First, for service provider. Refer to the result, better public relation would bring more commuters and benefit further. Of course that word of mouth is such a stronger weapon to make service well-known but it isn't enough when there are lots of competitors in the same field. Also, announce commuters when there's accident happen is let's not keep commuters waste their time for nothing and feel royalty to RTC Chiang Mai City bus.

The other parts for ones who would like to study more about these issues further able to study more about tourism sector. Researcher should study about tourists' satisfaction and behaviour specifically separate by nationality due to tourists have completely different behaviour and preference on how they would like to travel during their trip.

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