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FACTORS INFLUENCING THE DECISION TO REUSE RAIL TRANSPORT SERVICES FROM THE MAIN AIRPORT BY FOREIGN TOURISTS TRAVELING IN THAILAND

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Abstract: This study focuses on investigating factors influencing international tourists' decisions to reuse rail-based mass transit from major airports while traveling in Thailand, using the Airport Rail Link (ARL) system as a case study. The data were collected through questionnaires administered to 400 international tourists, selected through purposive sampling specifically targeting those who had previously used the ARL service from Suvarnabhumi Airport to Bangkok city center, Thailand, combined with convenience sampling methodology. Data analysis employed descriptive statistics, inferential statistics, exploratory factor analysis, and multiple regression analysis. Factors influencing international tourists' decisions to reuse rail-based mass transit from major airports in Thailand can be categorized into four main groups: personal factors, fundamental factors, service factors, and smoothness factors, comprising 22 sub-factors in total. These are distributed as follows: 8 personal sub-factors, 7 fundamental sub-factors, 4 service sub-factors, and 3 smoothness sub-factors. The findings revealed significant correlations between personal factors (occupation, pricing, station location) and fundamental factors (station dwell time, service experience, transit connectivity) with tourists' reuse intentions. Statistical analysis indicated stronger influence from fundamental factors (23.7%) compared to personal factors (13.8%) on service reuse decisions. Notably, service and smoothness factors did not demonstrate statistically significant relationships with reuse intentions, challenging conventional assumptions about their importance. This research contributes to transportation literature by establishing a robust framework for understanding airport rail transit user behavior specific to international tourism contexts. The study's findings provide valuable insights for transportation planners, tourism authorities, and public transit operators seeking to increase ridership and improve service utilization by international visitors**.** The ARL requires immediate strategic development to address Bangkok's growing transportation demands. Key priorities include optimizing facilities for independent international travelers, enhancing baggage handling systems, and improving intermodal connectivity. The implementation of innovative pricing strategies and service quality improvements, particularly in operational efficiency and transfer processes, will enhance passenger experience and support Thailand's sustainable transit development goals while encouraging service reuse among international tourists.

Keywords: public transport, transport services, major airports, international tourists, traveling, Airport Rail Link

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INTRODUCTION

Transportation systems are inherently vital to human activities in both urban and rural areas, encompassing commerce, manufacturing, and notably the tourism industry, which fundamentally relies on the movement of people from their residences or home countries to tourist destinations and other locations. Transportation serves as a crucial link between tourists and destinations, functioning not only as a connection to tourist attractions but also as a catalyst for travel motivation and a key factor in industrial development and growth (Chang et al., 2019).

Currently, numerous countries prioritize developing integrated transportation systems that connect both domestic and international travel routes as an opportunity to enhance their national capabilities and competitiveness (Ibrahim et al., 2020). The aforementioned information reflects the critical importance of developing comprehensive rail transportation systems that effectively meet the needs of both domestic and international users while connecting key destinations. These include airports, shopping centers, World Heritage sites, culinary and shopping districts, and major urban tourist attractions. Such connectivity presents a significant opportunity for business expansion and substantial enhancement of the country's tourism industry. Therefore, rail transportation systems serve as a vital catalyst for tourism while offering long-term solutions to traffic congestion, air pollution, particulate matter, and other related environmental challenges (Fisch-Romito & Guivarch, 2019). Additionally, it effectively facilitates urban connectivity and expansion to accommodate both tourism and other industries (Farooq et al., 2019). Despite higher investment and construction costs compared to other transportation systems, this approach has proven successful, as evidenced by the case study of Japan.

In Thailand, the government has increasingly prioritized policies for developing and enhancing rail transportation infrastructure, focusing on comprehensive coverage across the country's major urban areas. This is particularly evident

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in Bangkok, where government policies have focused on expanding rail transportation networks to achieve more comprehensive route coverage throughout the metropolitan area. Currently, multiple new rail transit routes are under simultaneous construction in Bangkok, with some sections already completed and operating in trial phases while others remain under development. This presents a significant opportunity for Bangkok, as the capital city holds prominence as a globally renowned tourist destination and a key city within the ASEAN region. In the future, when the rail network development meets the Ministry of Transport's coverage targets, it will significantly enhance Bangkok's tourism capabilities and facilitate greater tourist distribution to neighboring secondary cities. This expansion could also contribute to addressing various long-standing challenges faced by the Bangkok metropolitan area (Breuer et al., 2020). In terms of rail-based mass transit from Thailand's major airports, the ARL stands as the sole service provider and the only rail transportation option available for tourists and passengers at Suvarnabhumi Airport, serving as a connection to other rail systems such as the MRT and BTS. Amid various transportation challenges connecting to Suvarnabhumi Airport, alternative modes of transport often present issues for tourists, including inconvenience, excessive pricing, security concerns, and potential exploitation of international visitors. During 2019-2021, spanning the pre- and post-COVID-19 pandemic periods, ARL passenger volume decreased by 86.75%, marking the most significant decline among all rail transit operators in the Bangkok metropolitan area (Siangsuebchart et al., 2021).

This significant decline presents a critical research challenge for service providers and researchers: determining how to sustainably restore international tourist ridership on the ARL. The ARL must identify and implement key factors that will influence international tourists' decisions to utilize its rail transit service from major airports. This initiative aims not only to restore and stimulate ridership but also to contribute to addressing Bangkok's urban challenges, including dust pollution, traffic congestion, and other environmental issues (Promsri, 2015). Such developments align with both global community standards and current government policies that place significant emphasis on these matters.

LITERATURE REVIEW

1. Rail mass transit system from Thailand's major airports

Suvarnabhumi Airport, established in 2006, marked a significant milestone in Thailand's transportation infrastructure as the country's premier international gateway and regional aviation hub. Recognizing the need for efficient city connectivity, the Thai government initiated plans for an express train system linking the airport to Bangkok's city center (Siangsuebchart et al., 2021). The project's development began in September 2003 when the Cabinet approved a feasibility study with a budget of 20 million baht and a 120-day completion timeline. Following this, in November 2003, the government appointed an engineering consultant to design the railway project, allocating 291 million baht with a 240-day timeframe. A major step forward came in June 2004 when the Cabinet approved a substantial construction budget of 30 billion baht, which included 4.08 billion baht specifically for the airport terminal tunnel construction. The ARL finally commenced operations on August 23, 2010, under the management of Sky Train Company Limited, a state enterprise under the Ministry of Transport. The system later underwent an operational transition when it was incorporated into the larger Three Airports High-Speed Rail project in 2021, with operations transferred to the Eastern High-Speed Rail Linking Three Airports Co. Ltd. This development represented a significant evolution in Thailand's public transportation infrastructure, connecting major transportation hubs and enhancing mobility for both residents and visitors.

2. Service of airport

The Suvarnabhumi Airport Rail Link (ARL) is a sophisticated heavy rail transit system that serves as a vital transportation link between central Bangkok and Suvarnabhumi Airport. The infrastructure primarily operates on elevated tracks 20 meters above ground, transitioning to ground-level and underground sections near the airport terminal. The system employs European Standard Gauge tracks (1.435m) with overhead catenary power delivery (Alemi et al., 2018). The ARL's rolling stock consists of modern air-conditioned trains designed for optimal passenger comfort and efficiency. Each car accommodates 250-300 passengers, with trains comprising 3-10 cars operating on a 25kV AC power system. The network's total capacity reaches 50,000 passengers per hour in both directions, supported by advanced automated signaling and fare collection systems (Siangsuebchart et al., 2021).

The network spans eight stations, strategically positioned from Suvarnabhumi Airport to central Bangkok. Two key interchange stations facilitate seamless connectivity with Bangkok's broader mass transit network: Makkasan Station (A6) links to the MRT system, while Phaya Thai Station (A8) provides access to the BTS Skytrain network. Initially, the ARL operated three distinct services to cater to different passenger needs: the SA City Line serving all stations, the Makkasan Express Line providing direct airport-to-city service, and the Phaya Thai Express Line offering rapid airport-to-downtown connectivity. However, due to financial considerations, the express services were discontinued, leaving the SA City Line as the sole operating service (Ibrahim et al., 2020).

3. Statistics of foreign tourists using rail mass transit system from Thailand's major airports

The ARL has demonstrated significant growth in passenger traffic since its inception in 2010. Initial ridership of 4.7 million passengers in the first five months grew steadily, reaching a peak of 23.7 million passengers in 2018. The system achieved its highest daily ridership of 95,771 passengers in March 2019, a substantial increase from the 37,161 passengers recorded on its opening day. By September 2019, cumulative ridership exceeded 170.9 million passengers (Weerawat et al., 2020). The COVID-19 pandemic significantly impacted Thailand's rail transportation systems. Pre-pandemic, the combined daily ridership across all rail systems averaged 1.2 million passengers. Post-pandemic, this

figure dropped to 140,000, representing an 88.76% decrease. The ARL experienced the second-largest decline among Bangkok's rail systems, primarily due to its dependence on international airport traffic. This decline persisted even after domestic travel restrictions were eased, highlighting the ARL's reliance on international tourism (Obsie et al., 2020). These findings underscore the importance of developing an integrated public rail transportation system connecting Suvarnabhumi Airport. Such development would support Thailand's tourism strategic objectives and provide valuable data on international visitor travel patterns (Benferht & Bouder, 2024) ultimately contributing to the enhancement of Bangkok's transportation infrastructure and tourism capabilities.

4. Factors influencing service selection decision

In the Table 1 shows the factors affecting the decision to choose the service. It was found that there were 19 variables that could be extracted the variables were then divided into 7 categories by the researcher: personal factors have gender, age, education, personality, career, and status. social factors have family group, reference groups, group of thought leaders, roles and positions, life cycle. psychological factors have information, experience, famous, security, incentives, recognition, learning, belief, and attitude, economic factors have inflation, income, state policy, marketing factors have product, price, advertising/public relations, promotion, social media, distribution channels cultural factors have culture, sub-culture, social class, and the last one physical factor have ease of access, frequency of administration, service time, timetable, route, facilities, and employees, etc.

Table 1. The factors affecting the decision to choose the service (Source: compiled by the author)

Authors	Factor																		
	Ease of Access	Service frequency	Service Time	Timetable	Route	Price	Facilities	Employees	Social factor	Psychological factors	Learning	Experience	Service Quality	Famous	State policy	Security	Social media and Technology	Incentives	Marketing Mix
Biresselioglu et al. (2018)						√	√	√			√								
Yuen et al. (2018)	√	√	√	√		√		√	√				√			√	√		
Wygonik & Goodchild (2018)			√		√					√			√		√		√		√
Fu et al. (2018)							√	√				√	√	√					
Celik and Akyuz (2018)	√		√	√	√	√	√		√	√	√	√			√	√	√		√
Alemi et al. (2018)					√												√		
Peetawan & Suthiwartnarueput (2018)					√		√	√							√	√			√
Heinold & Meisel (2018)	√		√	√	√		√									√	√		
Gul & Celik (2018)					√		√	√	√		√					√			
Yashiro and Kato (2019)					√	√	√			√			√	√	√	√			√
Whittle et al. (2019)	√	√	√	√	√				√			√			√	√	√	√	√
Liébana-Cabanillas et al. (2019)										√	√	√	√			√	√	√	
Markolf et al. (2019)	√	√	√	√	√	√	√		√				√		√	√	√		√
Jing et al. (2019)					√		√		√		√		√		√	√	√		√
Chang et al. (2019)						√	√												
Wei et al. (2019)									√	√									√
Jaller and Pahwa (2020)					√								√		√	√	√	√	√
Mavrin et al. (2020)	√				√		√				√		√	√		√		√	√
Eren and Uz (2020)	√	√	√	√					√					√	√	√			√
Lăzăroiu et al. (2020)						√				√	√			√					
Chen et al. (2020)							√					√	√			√			
Ibrahim et al. (2020)		√	√	√	√		√				√		√	√	√	√		√	√
Obsie et al. (2020)		√	√		√		√	√	√		√					√			
Dobson (2021)							√								√				√
Przybylowski et al. (2021)											√				√	√			
Orîndaru et al. (2021)							√		√	√	√					√		√	√
Total	**7**	**6**	**9**	**7**	**14**	**7**	**16**	**6**	**10**	**7**	**11**	**5**	**11**	**6**	**12**	**18**	**10**	**6**	**14**

RESEARCH METHODOLOGY

1. Research participants

The samples used in the study were 400 international tourists. The sample size was calculated by the method of Louangrath (2017). The characteristics of the sample were international tourists who had previously used the Airport Rail Link service from Suvarnabhumi Airport to Bangkok city center, Thailand.

2. Research tool

There is a questionnire that used as a research tool. The questionnaire was in 6 parts: 1) Questions about the factors that influence the decision to use the ARL service, 2) Questions about the behavior of foreign tourists who use ARL services

via Service Touch Points, 3) Questions about the behavior of effectiveness of ARL services via Service Touch Points, 4) Questions about foreign tourists' decision to use the ARL service repeatedly, 5) Questions about Demograhics, and 6) Suggestions. The reliability of the questionnaire was determined by Cronbach's reliability Coefficient alpha with a group 30 participants with similar characteristics with the samples (Adamson & Prion, 2013). The reliability of the questionnaires was at 0.952, with a confidence value of 0.7 or higher. Therefore, it can be concluded that these questionnaires are reliable.

3. Data collection and analysis procedures

The data collection employed two primary sources: questionnaire responses and documentary analysis. Participants were offered flexibility in questionnaire completion, with options for both paper-based and Google Form submissions according to their preference. Participation was voluntary, with respondents retaining the right to withdraw at any time. The data collection phase spanned from July to September 2023, and the study received ethical approval (Ethics Committee Reference: ECNIDA 2022/0140). The quantitative data analysis utilized SPSS software, incorporating descriptive statistics, inferential statistics, exploratory factor analysis (EFA), and multiple regression analysis. Mean scores from Likert scales were interpreted following Boonchom Srisaard's (2010) evaluation criteria. Additionally, Confirmatory Factor Analysis (CFA) was conducted using AMOS software. Research Methodology Steps are illustrated in Figure 1.

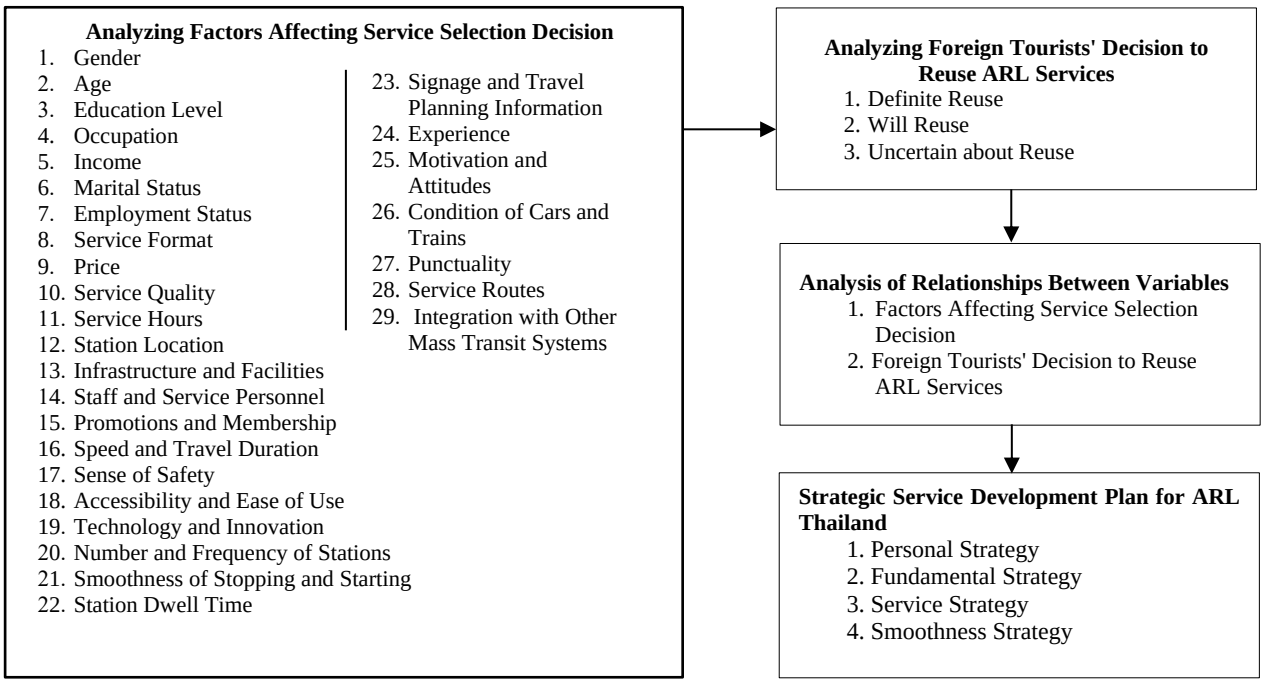

Figure 1. Research methodology steps

RESULTS

Exploratory Factor Analysis (EFA) was conducted to examine the preliminary suitability of variables affecting ARL service decision-making. The survey results revealed a Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) of 0.883, which is greater than 0.80 and approaches 1. Additionally, Bartlett's Test of Sphericity showed a chi-square value of 4,196.367 with statistical significance at 0.000. These results indicate that the variables are highly suitable for further analysis (Cerny & Kaiser, 1977), as shown in Table 2. Factor extraction was performed using Principal Component Analysis (PCA). The extraction results show only components with eigenvalues greater than or equal to 1, following factor analysis principles (Guttman, 1954). Four components were identified, with eigenvalues ranging from 1.12 to 6.25. The percentage of variance ranged from 5.11 to 28.43, with a cumulative variance percentage of 61.10, as shown in Table 3.

Table 2. KMO and Bartlett's test values for factors affecting ARL service decision

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.883
Bartlett's Test of Sphericity	Approx. Chi-Square	4196.367
	df	231
	Sig.	.000

Table 3. ARL factor extraction of variables affecting arl service decision

Component	Variance	Percentage of Variance	Cumulative Percentage of Variance
1	6.255	28.431	28.431
2	4.072	18.507	46.938
3	1.992	9.053	55.991
4	1.125	5.114	61.106

For component rotation, the researcher employed Orthogonal Rotation using Varimax with Kaiser Normalization to achieve clearer variable characteristics. According to the criteria for appropriate factor loading consideration, variables must have a factor loading of 0.5 or higher (Harlow, 2002). If an observed variable has a higher loading in any component, it should be assigned to that component. Therefore, the researcher categorized the factors affecting ARL service decisions into 4 components, comprising 22 observable variables, with 7 variables being eliminated, namely:

FT1: Gender factor influencing service selection decision

FT2: Age factor influencing service selection decision

FT14: Infrastructure and facilities factor of ARL influencing service selection decision

FT16: Promotions and membership factor of ARL influencing service selection decision

FT20: Technology and innovation factor of ARL influencing service selection decision

FT22: Smoothness of stopping and starting factor of ARL influencing service selection decision

FT24: ARL Punctuality factor of ARL influencing service selection decision

Due to their factor loadings being less than 0.50, these variables were eliminated. The remaining variables were then categorized into four components: Personal Factors, Fundamental Factors, Service Factors, and Smoothness Factors, as shown in the exploratory factor analysis results in Table 4.

Table 4. Exploratory factor analysis of variables affecting ARL service decision

Code	Extracted Variables	Factor Loading				Cronbach's Alpha
		Personal Factors	Fundamental Factors	Service Factors	Smoothness Factors	
FT9	ARL pricing factor influencing service selection decision	0.779				0.876
FT8	ARL service format factor influencing service selection decision	0.772				
FT6	Marital status factor influencing service selection decision	0.771				
FT7	Employment status factor influencing service selection decision	0.769				
FT5	Income factor influencing service selection decision	0.743				
FT10	ARL service quality factor influencing service selection decision	0.709				
FT4	Occupation factor influencing service selection decision	0.657				
FT13	ARL station location factor influencing service selection decision	0.616				
FT28	ARL integration with other mass transit systems factor influencing service selection decision		0.808			0.883
FT25	ARL signage and travel planning information factor influencing service selection decision		0.796			
FT27	Personal motivation and attitude factor influencing service selection decision		0.787			
FT29	ARL train cars and fleet condition factor influencing service selection decision		0.786			
FT23	ARL station dwell time factor influencing service selection decision		0.728			
FT26	Previous experience with ARL service factor influencing service selection decision		0.667			
FT21	ARL number and frequency of stations factor influencing service selection decision		0.645			
FT12	ARL service route factor influencing service selection decision			0.839		0.831
FT11	ARL service hours factor influencing service selection decision			0.780		
FT13	ARL station location factor influencing service selection decision			0.741		
FT15	ARL staff and service personnel factor influencing service selection decision			0.674		
FT18	ARL safety perception factor influencing service selection decision				0.807	0.810
FT19	ARL accessibility and ease of use factor influencing service selection decision				0.747	
FT17	ARL speed and travel duration factor influencing service selection decision				0.730	
Overall Reliability of Factors Affecting ARL Service Decision						**0.876**

Subsequently, the researcher examined the relationship between factors affecting foreign tourists' decisions to reuse ARL services by analyzing correlation coefficients. This analysis was conducted to test hypotheses regarding factors influencing foreign tourists' repeat use of ARL services, with details as follows:

From Table 5, among the Personal Factors affecting foreign tourists' decision to reuse ARL service, the occupation factor showed the highest correlation (49.9%), followed by ARL service format (47.4%), while ARL pricing showed the lowest correlation (39.3%). Regarding fundamental factors affecting foreign tourists' decision to reuse ARL services, personal motivation and attitude showed the highest correlation (49.3%), followed by integration with other mass transit systems (46.0%), while signage and travel planning information showed the lowest correlation (40.8%).

Regarding service factors affecting foreign tourists' decision to reuse ARL services, staff and service personnel showed the highest correlation (38.4%), followed by station location (33.8%), while service hours showed the lowest correlation (27.2%). Finally, regarding smoothness factors affecting foreign tourists' decision to reuse ARL services, safety perception showed the highest correlation (42.4%) , followed by accessibility and ease of use (39.1%), while speed and travel duration showed the lowest correlation (38.4 %).

Table 5. Correlation coefficients between factors affecting foreign tourists' decision to reuse ARL Services

Personal Factors:	**ARL Service Effectiveness Through Service Touch Points**	
	R	**P Value**
1. Occupation	.499	.000
2. Income	.421	.000
3. Marital status	.450	.000
4. Employment status	.394	.000
5. Service format	.474	.000
6. Price	.393	.000
7. Service quality	.429	.000
8. Station location	.446	.000
Fundamental Factors	**ARL Service Effectiveness Through Service Touch Points**	
	R	**P Value**
1. Number and frequency of stations	.435	.000
2. Station dwell time	.448	.000
3. Signage and travel planning information	.408	.000
4. Service experience	.456	.000
5. Personal motivation and attitude	.493	.000
6. Integration with other mass transit systems	.460	.000
7. Trains, cars, and fleet condition	.453	.000
Service Factors	**ARL Service Effectiveness Through Service Touch Points**	
	R	**P Value**
1. Service hours	.272	.000
2. Service route	.320	.000
3. Station location	.338	.000
4. Staff and service personnel	.384	.000
Smoothness Factors	**ARL Service Effectiveness Through Service Touch Points**	
	R	P Value
1. Speed and travel duration	.384	.000
2. Safety perception	.424	.000
3. Accessibility and ease of use	.391	.000

Table 6. Correlation coefficients of factors affecting foreign tourists' decision to reuse ARL Services

Personal Factors	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	***β***		
1. Occupation factor	.361	.603	.508	2.973	.003
6. ARL price factor	.119	.709	.114	1.449	.005
8. ARL station location factor	.908	.506	.900	1.729	.000

$R = .138$, $R^2 = .019$, $F = .948$, P Value < 0.05

Fundamental Factors	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**β**		
2. ARL station dwell time factor	.131	.604	.138	2.036	.042
4. ARL service experience factor	.170	.057	.201	2.977	.003
6. ARL service experience factor	.171	.071	.168	2.414	.016

$R = .237$, $R^2 = .056$, $F = 3.325$, P Value < 0.05

From Table 6, personal factors influence foreign tourists' decision to reuse ARL services at 13.8 percent. When analyzing individual variables within personal factors, ARL station location factor shows the highest influence at 90.8 percent ($\beta = .900$, $t = 1.729$), followed by occupation factor at 36.1 percent ($\beta = .508$, $t = 2.973$), and ARL price factor at 11.9 percent ($\beta = .709$, $t = 1.449$), respectively. Analysis of fundamental factors affecting foreign tourists' decision to reuse ARL services shows an overall influence of 23.7%. When examining individual variables within fundamental factors, train cars and fleet condition accounts for 17.1 percent ($\beta = .168$, $t = 2.414$), followed by service experience at 17.0% ($\beta = .201$, $t = 2.977$), and train cars and fleet condition at 13.1% ($\beta = .138$, $t = 2.036$), respectively.

Table 7 indicates that personal factors affecting foreign tourists' decision to reuse ARL services, including users' occupation, ARL pricing, and ARL station location factors, demonstrate statistically significant relationships with foreign tourists' decision to reuse ARL services. Users' income, marital status, employment status, ARL service format, and ARL service quality factors show no statistically significant relationship with foreign tourists' decision to reuse ARL services. The fundamental factors influencing foreign tourists' decisions to use ARL services again comprise three significant elements: ARL station dwell time, service experience on ARL, and transit connectivity with other public transportation modes. Statistical analysis revealed that these factors demonstrated a significant correlation with foreign tourists' repeat service usage decisions of the ARL. The statistical analysis indicated no significant correlation between foreign tourists' decisions to reuse ARL services and several factors: the number and frequency of ARL stations, signage and travel planning information, personal motivation and attitudes, and the condition of ARL cars and trains. These variables demonstrated no statistically significant relationship with foreign tourists' repeat service usage decisions.

Table 7. Hypothesis testing results for factors affecting foreign tourists' decision to reuse ARL services

Hypothesis No.	Personal Factor Hypotheses	Analysis Results
H1.1.1	**Occupation**	**Supported**
H1.1.2	Income	Rejected
H1.1.3	Marital status	Rejected
H1.1.4	Employment status	Rejected
H1.1.5	Service format	Rejected
H1.1.6	**Price**	**Supported**
H1.1.7	Service quality	Rejected
H1.1.8	**Station location**	**Supported**
Hypothesis No.	**Fundamental Factor Hypotheses**	**Analysis Results**
H1.2.1	Number and frequency of stations	Rejected
H1.2.2	**Station dwell time**	**Supported**
H1.2.3	Signage and travel planning information	Rejected
H1.2.4	**Service experience**	**Supported**
H1.2.5	Personal motivation and attitude	Rejected
H1.2.6	**Integration with other mass transit systems**	**Supported**
H1.2.7	Trains, cars, and fleet condition	Rejected
Hypothesis No.	**Service Factor Hypotheses**	**Analysis Results**
H1.3.1	Service hours	Rejected
H1.3.2	Service route	Rejected
H1.3.3	Station location	Rejected
H1.3.4	Staff and service personnel	Rejected
Hypothesis No.	**Smoothness Factor Hypotheses**	**Analysis Results**
H1.4.1	Speed and travel duration	Rejected
H1.4.2	Safety perception	Rejected
H1.4.3	Accessibility and ease of use	Rejected

The analysis of service-related factors affecting foreign tourists' decisions to reuse ARL services revealed several noteworthy findings. The statistical analysis demonstrated that none of the examined service dimensions exhibited significant correlations with passengers' repeat usage intentions. Specifically, operational aspects such as service hours, route coverage, and station locations showed no statistically significant relationship with foreign tourists' reuse decisions. Similarly, staff and service personnel performance did not emerge as a significant factor in influencing repeat patronage. Furthermore, the investigation extended to additional service attributes including travel efficiency metrics, safety considerations, and accessibility features. The study found that travel speed and journey duration, perceived safety levels, and ease of service access demonstrated no statistically significant correlation with foreign tourists' decisions to utilize ARL services again.

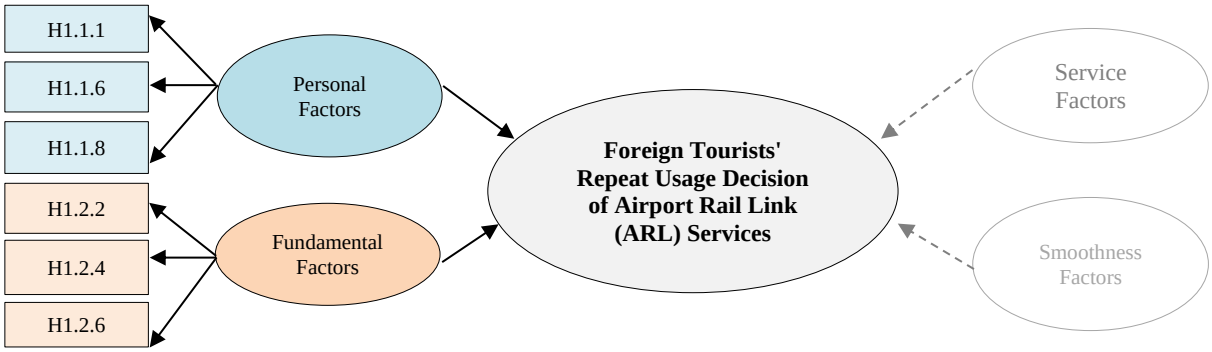

Figure 2 Multiple regression analysis model: relationships between factors affecting foreign tourists' ARL service usage and their repeat service usage decisions (with sub-variables)

DISCUSSION

Research into factors influencing the use of Airport Rail Link (ARL) services by foreign tourists in Thailand reveals two primary categories of influence, encompassing six crucial sub-factors that significantly impact service utilization and customer retention. The analysis demonstrates the intricate relationship between personal and fundamental factors in shaping tourists' decisions to use and reuse ARL services. Personal factors emerge as significant determinants in service selection and reuse. These include occupational characteristics of service users, which directly influence travel preferences and requirements; pricing considerations, which affect value perception and usage frequency; and station location accessibility, which impacts service convenience and utility. This finding aligns with Celik & Akyuz (2018), who identified similar personal factors as crucial elements in transportation decision-making processes. The fundamental factors, equally critical in determining service utilization, comprise three key elements: station dwell time management, focusing on efficient passenger boarding and alighting periods; intermodal transit connectivity, emphasizing seamless integration with other public transportation systems; and previous service experience, which significantly influences future usage decisions. This observation is supported by Ibrahim et al. (2020), who emphasized the importance of service quality and integration in public transportation systems.

Historical evidence supports ARL's significant potential, as demonstrated by its remarkable growth from 4.7 million passengers in early 2010 to a peak of 23.7 million in 2018. However, as reported by Weerawat et al. (2020), the COVID-19 pandemic significantly impacted these numbers, with passenger volume decreasing by 86.75% during 2019-2021, marking the most significant decline among all rail transit operators in the Bangkok metropolitan area (Siangsuebchart et al., 2021).

The findings suggest that enhancing ARL's appeal requires a multi-faceted approach. For personal factors, occupational differentiation demands customized facilities and services, particularly for business travelers. This aligns with Yuen et al. (2018)'s findings on the importance of user-specific service adaptations. Pricing strategies must evolve to accommodate the growing trend of independent travelers, while station accessibility needs to prioritize seamless connectivity and efficient luggage handling systems. Regarding fundamental factors, the current limitation to SA City Line operations necessitates optimal station dwell time management. This operational aspect becomes particularly crucial given Bangkok's status as one of the world's most congested cities, as noted by Promsri (2015). The integration with other mass transit systems (BTS, MRT) and alternative transport modes must be strengthened to enhance the overall transit experience.

This analysis aligns with contemporary research by Benferht & Bouder (2024), who emphasize the crucial role of metropolitan transit system development. Their research highlights the growing dependence on integrated transportation networks for urban tourism, underscoring the importance of organized metropolitan spaces through enhanced transport infrastructure. These developments aim to effectively manage tourist flows and reduce congestion in urban centers. The comprehensive improvement strategy addressing these factors would position ARL as an integral component in Bangkok's sustainable urban development, aligning with government policies and objectives. Such enhancements would not only increase utilization and repeated patronage by foreign tourists but also contribute to establishing ARL as a sustainable solution within Bangkok's broader transportation infrastructure framework, supporting Thailand's long-term urban mobility goals.

CONCLUSION

ARL connecting Suvarnabhumi Airport to central Bangkok, requires strategic enhancement to meet Thailand's growing tourism demands and urban transit challenges. The service must evolve to address diverse passenger needs, particularly focusing on independent international travelers through optimized station facilities, enhanced baggage handling, and improved intermodal connectivity. The development strategy encompasses innovative pricing mechanisms, including tourist membership programs, alongside comprehensive service quality improvements. Priority must be given to optimizing operational efficiency, particularly station dwell times and transfer processes. These enhancements aim to create positive passenger experiences that encourage service reuse while contributing to Bangkok's sustainable mass transit development and Thailand's broader tourism infrastructure objectives.

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