



Applying Push and Pull Theory to Determine Domestic Visitors' Tourism Motivations

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Abstract

The purpose of the study was to determine the motivations driving domestic tourists' travel decisions to Vietnam's Central Highlands. These motivations are categorized as originating from within the tourists themselves (push) and as being shaped by the attractiveness and external attributes of the tourist destination in the Central Highlands (pull). Additionally, the study aimed to examine how demographic factors such as gender and age influence these motives. To conduct this research, the authors gathered relevant studies and expert opinions to construct a research model. A total of 745 visitors were surveyed over a period of more than two months. The collected data was quantitatively analyzed using two tools: SPSS and AMOS. The findings indicated that three factors impact push motivation: personal factors, escapism, and knowledge and cultural experiences. Furthermore, three elements influence pull motivation: destination information and accessibility, the destination's unique image, and personal factors. Gender and age exhibited significant effects on these aspects at various levels, except for males, who had no influence on the escapism factor. These findings provide valuable insights for the Central Highlands tourism sector, enabling tourism managers and stakeholders to adjust their services and marketing strategies to better cater to the preferences and demands of domestic visitors. Moreover, the outcomes of this study could be applied to other regions with similarities, such as the Northwest region of Vietnam, the mountainous areas of the central provinces of Vietnam (challenging regions with diverse ethnic minorities), or analogous areas worldwide.

Keywords: push-pull theory; motivational tourism; Vietnam Central Highlands.**JEL Classification:** Z30, Z32, L8

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1. Introduction

The Central Highlands, as one of Vietnam's seven economic regions, are of great strategic significance to the country's economy, culture, ecology, defence and security, and international relations. Thus, achieving rapid and sustainable growth in this region is crucial for the country's overall development. The Central Highlands have been acting as a bridge and a driving force in promoting and supporting the development of the neighboring economic regions (DCSVN, 2022). Tourism is considered a promising economic sector in the Central Highlands due to its potential and



the natural advantages of the region, such as a rich history, abundant natural resources, stunning scenery, and a distinct indigenous culture (Thuy, 2022). Despite these advantages, policymakers have long viewed the area as needing an immediate “awakening” (Diep Anh, 2022), as tourism revenue still does not contribute significantly to the region’s economy, and the destination’s appeal has yet to capture the hearts and motives of tourists.

Currently, numerous authors are focusing on tourism in the Central Highlands with the aim of diversifying products and services to attract visitors by differentiating tourism types. However, there has been no comprehensive research on tourist motivations, which are the fundamental factors that influence travel choices to the Central Highlands. This raises the question: what is attracting tourists to the Central Highlands, and why can’t it become a famous destination with its unique tourism resources? As the first study on this topic, this research employs push and pull theory to identify the incentives that are bringing tourists to the Central Highlands, as well as how the region is satisfying the requirements of its visitors.

The objective of this research is to uncover the motivations driving domestic visitors to choose Vietnam’s Central Highlands as their travel destination. The study aims to utilize the push and pull theory to gain a deeper understanding of the underlying factors that influence visitors’ decisions when selecting a travel destination. Additionally, the research aims to examine the impact of demographic characteristics such as gender and age on these motivations. These demographic variables have been used by various researchers for different analysis purposes (Ključnikov et al., 2021; Civelek et al., 2021; Civelek, & Krajčík, 2022). Furthermore, the research seeks to establish an informative framework for tourism managers and industry stakeholders to gain a comprehensive understanding of the complexities inherent in travel choices. This framework could aid in the formulation of strategies and services that cater to the preferences of visitors, thus enhancing visitor satisfaction and overall attractiveness. The research provides valuable insights for crafting a distinctive tourist image, promoting the destination, and enhancing tourism infrastructure. These efforts are directed towards creating an appealing environment for visitors and contributing to the long-term development of the region’s tourism industry. Additionally, the research elucidates the efficacy of the initiatives set forth by stakeholders in the tourism industry with the primary aim of increasing revenue generated from tourism, thus demonstrating the significance of tourism as a leading industry in the Central Highlands. The data was analyzed using a SEM model, and the results will provide useful reference data for policymakers to develop more effective plans for the upcoming years. The research results in the Central Highlands region of Vietnam can be used as a reference for other similar regions around the world, which may include areas with numerous ethnic minorities, challenging terrains, unique cultural features, and relatively untouched natural landscapes.

The theory of push-pull motivation and how it fits with the Central Highlands will be discussed in the next section as the basis for this study. The structure of the paper is organized in the following order: first, the abstract and keywords; Section 1 provides a general introduction to the paper; Section 2 reviews the literature relevant to the research; Section 3 presents the research methods and data collection; Section 4 describes the research findings; Section 5 discusses their policy implications; and Section 6 presents the conclusions, limitations, and future research directions. The final section contains the references.

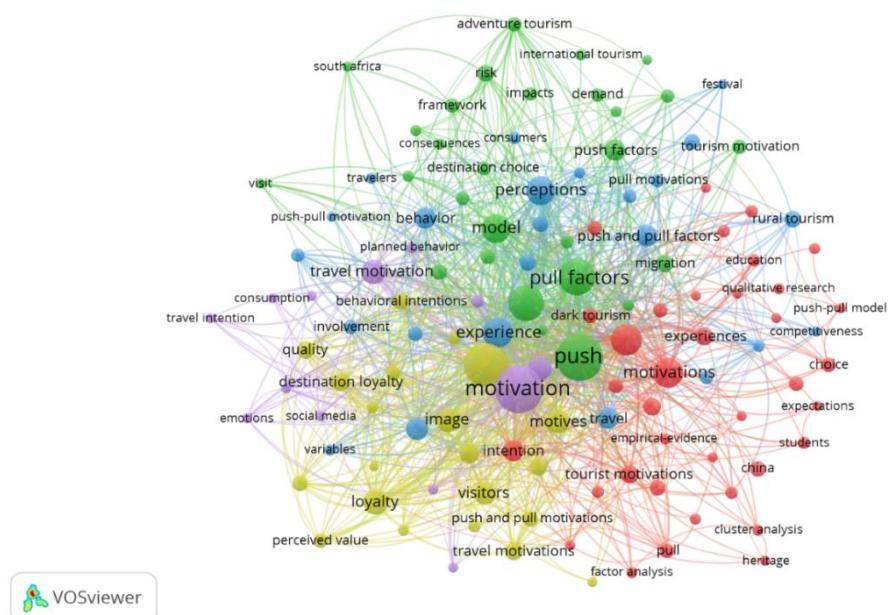
2. Literature review

2.1. Push and pull motivation

There is now a vast amount of literature on tourist behavior and motivation, including different theoretical models, empirical studies, and case studies. The push-pull model, which

suggests that tourists are motivated by both internal and external factors, is one common theoretical framework that is often used to study tourists' motivations. Push motivation elements are internal forces related to psychological demands that motivate people to travel, while pull motivation elements are external influences that draw visitors to locations and impact travelers' "where to go" choices (John, 2016; Gavurova et al. 2023). The push-pull model has been used to investigate tourist motivation in a variety of contexts, including cultural tourism (Kim, 2013), nature-based tourism (Xu, 2016; Buckley, 2012), adventure tourism (Chen, 2019), heritage tourism (Karamehmedovic, 2018), cruise tourism (Whyte, 2017), creative tourism (Dean, 2019), food tourism (Su, 2018), and volcano tourism (Aquino, 2017). According to the findings of these studies, both internal and external factors affect tourist motivation, but the relative significance of these factors varies depending on the context. For example, Luvsandavaajav (2021) investigated the Mongolian tourist motivations of domestic tourists using the push and pull model and discovered that tourist motivation (the push and pull factor) is an important construct of behavioral intention. Similarly, Su and Li (2016) used the push and pull model to examine the motivations of Chinese tourists to visit Taiwan and discovered that both internal and external factors played a major role in their travel decisions. Furthermore, empirical research has looked into a variety of variables that influence tourist behavior, such as cultural differences (Wang, 2016), tourist satisfaction (Petrick, 2017; Mura & Stehlíkova, 2023), and destination image (Chang, 2018; Vasanicova et al., 2021; Alam et al., 2022). In addition, push and pull theory has also been studied in other areas, such as research on a certain group of visitors, specifically: mountain climbing tourists (Caber, 2016), birding tourists (Chen, 2015), hearing-impaired backpackers (Ho, 2017), winter sports tourists (Wang, 2020), senior tourists (Wijaya, 2018; Parreira, 2021), and religious tourists (Wang, 2015). Or research on tourist loyalty (Wen, 2019; Leo, 2020), studies on visitor return (Joseph, 2019; Rita, 2018), predicting visitor needs (Carvache-Franco, 2021), resort hotel choice (Thakur, 2022; Tothova et al. 2022), etc.

Figure 1. The emergence of research fields related to push-pull motivation from the WOS database (accessed March 20, 2023)



Source: authors

The author used VOSviewer to assess the study areas concerning push and pull motivations.

The findings indicate that the literature on tourist behavior and motivation is diverse and provides valuable insights for policymakers and tourism managers in creating effective tourism development strategies.

The authors have drawn on models of push and pull motivation from various scholarly sources, and the resulting push and pull factors have been synthesized in the table below.

Table 1. Previous studies examining push and pull factors

Researcher (s)	Push factors identified	Pull factors identified
(Karasakal, 2018)	Escape, relaxation, socialization, information and novelty seeking, prestige, family/friends togetherness, and ego enhancement	Historical areas, natural beauty, activities, culture, security, weather/climate, shopping, reasonable prices, and cleanliness
(Sastre, 2017)	Fun, rest and relaxation, and escaping from the daily routine and environment	Natural scenery and landscapes, beaches, and the hospitality and friendliness of the people
(Nikjoo, 2015)	Escape and ego enhancement	Accessibility and entertainment
(Zaytseva, 2017)	Novelty seeking, culture exploration, and rest and relaxation	Personal safety, prices, environmental safety, and quality
(Aref, 2010)	Fulfilling prestige, enhancing relations, seeking relaxation, enhancing social circle, sightseeing variety, fulfilling spiritual needs, escaping, and knowledge	Events and activities, easy access and affordability, history and culture, variety seeking, adventure, natural resources, heritage sites, sightseeing variety
(Jeong, 2014)	Escape, novelty	Active marine activities, static marine activities
(Khuong, 2014)	To learn something new and interesting, to explore a new place, to visit a foreign land or country, to meet new people and socialize with the local community, to escape	Physical amenities, festival/special events and activities, weather, historical, cultural, artistic, religious attractions, food, natural scenery and landscape, safe and easy-access destination
(Yousefi, 2015)	Novelty and knowledge-seeking, ego-enhancement, rest and relaxation	Cultural and historical attractions, tourism facilities, environment, and safety
(Rojan Baniya, 2016)	Relaxation, enhancing relations, prestige, knowledge gain, escaping, daily routine, spiritual needs, sightseeing variety	Adventure, events and activities, easy access and affordability, history and culture, variety seeking, natural resources
(Diep NS, 2018)	Socialization, cultural experience, and taste of food	Destination appeals, orefood-tourism appeals, traditional food appeals
(Giddy, 2018)	Novelty, enjoying nature, environmental education, escapism, thrill, overcoming nature, physical challenge/skills development, risk, socialization	Environment, attractions, and facilities
(Made Antara, 2018)	Culture, status and personal development, physical, interpersonal	Nature around, atmospheric and climate conditions, budget meals and accommodations, culture and history, society, security and hygiene, recreation opportunities in the natural open
(Subadra, 2019)	Exploring nature, experiencing different lifestyles, cultures, gazing at cultural tourist attractions	Natural resources, cultures, many heritage sites, places that must be visited before dying, weather
(Aquino RS, 2017)	Escape, relaxation, socialization, novelty, and knowledge-seeking	Self-developed
(Katsikari, 2020)	Knowledge/intellectual, novelty/adventure, escape/entertainment/prestige, sport	Culture/history, activity/sports, nature/outdoor, safety/luxury
(Arowosafe, 2021)	Socialization, relaxation, sightseeing, a change of environment, adventure, meeting new friends, escaping, getting away from home	Nature and landscape, weather, culture, art and tradition, picnic opportunities, recreational facilities, swimming, and rock climbing
(Dong NH, 2020)	Knowledge and discovery, leisure and	Personal safety, destination information,

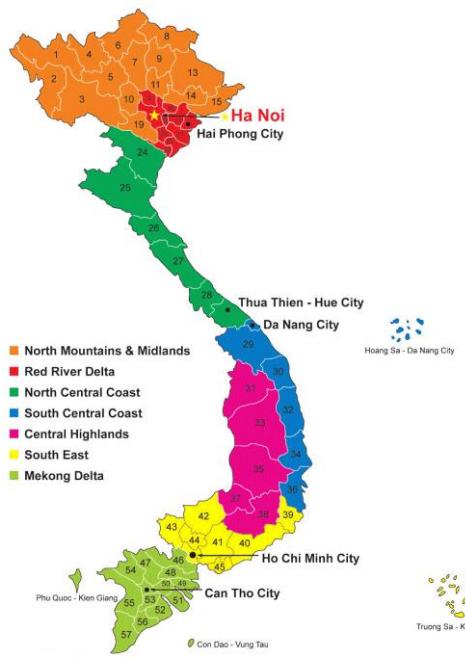
	relaxation, culture and religion, family and friends, and being proud of the trip	destination characteristics, trip costs, and convenient and reasonable trip schedules
(Arabatzis, 2009)		Personal, nature characteristics, infrastructure, recreation facilities, information, and communication

Source: compiled by the authors

2.2. Central Highlands research area

The Central Highlands region comprises five provinces: Kon Tum, Gia Lai, Dak Lak, Dak Nong, and Lam Dong. The tripoint at the border between Vietnam, Laos, and Cambodia connects the northern and southern parts of Vietnam. The region occupies approximately 16.8% of the nation's total area. The geography of the region is not limited to a single plateau but encompasses a collection of neighboring plateaus with an average elevation ranging from 500 to 1,500 m. With substantial natural and cultural assets, the Central Highlands have the potential to host diverse tourist activities (Mai, 2019). UNESCO has recognized several of the region's heritages, including the cultural space of gongs, which is a representative of humanity's intangible cultural heritage, and the Dak Nong Global Geopark. Given its strategic position, the Central Highlands are in a prime position to enhance exchanges and economic growth, particularly in the development of tourism, with numerous regions in the nation and abroad. Several major tourist routes, such as the Central Heritage Road, the Highland Green Road, and the Trans-Asian Tourist Route, which links Vietnam to Indochina, have been developed (Diep Anh, 2022). The Central Highlands is an underdeveloped region with a substantial percentage (over 30%) of ethnic minority communities, a number of impoverished communes, and an abundance of potential for tourism stemming from its cultural and natural attractions.

Figure 2. Central Highlands location in Vietnam on the map (31, 33, 35, 37, 38)



Source: authors

The area satisfies the criteria set forth by non-governmental organizations as a primary foundation for the implementation of tourism activities, thus catalyzing economic growth,



augmenting wages, and providing employment opportunities for local residents (Duyen, 2021). At the same time, it aligns with the goals of national initiatives such as the program for promoting grassroots cultural life and the new rural construction program of the Communist Party and government.

One could say that the Central Highlands' stakeholders haven't been able to work together and coordinate well enough on the tourism story. Expert analysis has revealed that various factors have hindered the development of tourism in the Central Highlands, including a lack of a cohesive job market, inadequate product innovation, and a lack of inter-provincial cooperation (Diep Anh, 2022). Moreover, marketing efforts in the region have not been successful in conveying the significance of the Central Highlands as a tourist destination. To address these issues, this study utilizes the push and pull theory to identify the key motivators for tourists and thereby enhance the destination marketing toolkit for the Central Highlands.

3. Methodology

3.1. Research Methods

Data collection methods. The author employs the following two methods: 1. Questionnaire survey method. Based on the research scale, the author constructed an initial questionnaire. Following a preliminary survey and consultation with experts, the author made adjustments to the questionnaire and subsequently incorporated it into the official survey; 2. Expert method. During the study, experts were involved in the process, including three state tourism management officials, five university lecturers teaching tourism, two directors of travel agencies, and two specialists in tourism projects. They provided their insights and recommendations on constructing study models and scales. Additionally, when the results of the rotation matrix were presented, the experts were consulted on the name of the new variable created by combining two existing variables.

Data analysis methods. In the study, the authors utilized two tools, namely SPSS and AMOS, for processing the data collected from the research results using the procedures outlined in Section 3.4.

3.2. Research model and hypothesis

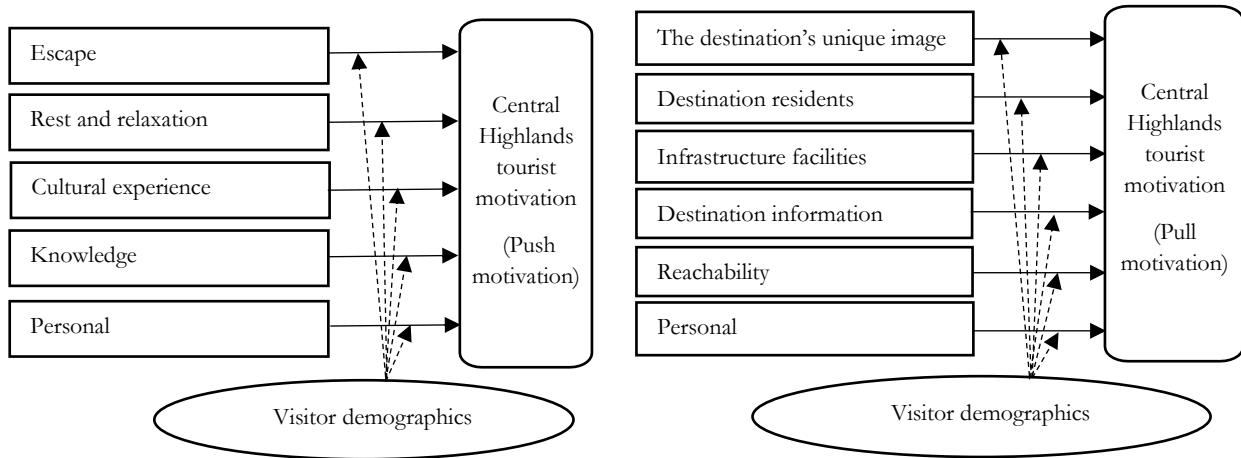
The authors have developed a research model based on existing reference models, a synthesis of relevant literature, and the opinions of experts.

1. This research model includes several independent variables that impact push motivation, as listed below: 1. Escape (Katsikari, 2020; Karasakal, 2018; Aquino RS, 2017; Giddy, 2018); 2. Rest and Relaxation (Sastre, 2017; Zaytseva, 2017; Yousefi, 2015; Dong NH, 2020); 3. Cultural experience (Subadra, 2019; Zaytseva, 2017; Diep NS, 2018); 4. Knowledge (Katsikari, 2020; Aref, 2010; Rojan Baniya, 2016); 5. Personal (Dong NH, 2020; Karasakal, 2018; Arowosafe, 2021). Experts suggest that the personal variable should encompass a range of factors, including but not limited to family, peers, novelty, exploration, regression, strengthening familial ties, socialization, and so on.

2. Pull motivation is composed of the following independent variables: 1. The destination's unique image (Karasakal, 2018; Sastre, 2017; Made Antara, 2018; Khuong, 2014; Gallardo-Vázquez, 2023; Luvsandavaajav, 2022), (Experts suggest that variables such as indigenous culture, customs, festivals, natural elements, cuisine, environmental sanitation, security, and safety should be integrated into a single variable known as the destination's unique image); 2. Destination residents (Sastre, 2017), (experts' viewpoints); 3. Infrastructure facilities (Arowosafe, 2021; Arabatzis, 2009; Giddy, 2018; Dreshaj, 2022); 4. Destination information (Arabatzis, 2009; Dong NH, 2020); 5.

Reachability (Khuong, 2014; Aref, 2010; Rojan Baniya, 2016); 6. Personal (Arabatzis, 2009; Dong NH, 2020) (experts' viewpoints).

Figure 3. Proposed research model



Source: authors

After conducting research on sources related to push and pull motivation, the author synthesized and constructed the following scale:

Table 2. Variables and scales in the study

Push motivation		Pull motivation	
Variables	Scales	Variables	Scales
1. Escape	1. Escaping from routine life and its demands 2. Escaping from the pressures of daily life 3. Escaping ordinary responsibility (Noela MWN, 2020; Adel H., 2015)	1. The destination's unique image	1. Unique indigenous culture 2. Conventional customs and distinctive festivals 3. Various natural factors, such as climate, rivers, lakes, and mountains 4. Delightful local cuisine 5. A clean and refreshing environment 6. High levels of security and safety (Sánchez-Cañizares, 2017; Zhang, 2019)
2. Rest and relaxation	1. I am free to do what I like 2. Engage in exciting activities 3. Enjoy more physical rest and relaxation 4. Attain peace of mind and body (Adel H., 2015; Aquino RS, 2017; Dai, 2022)	2. Destination residents	1. The amicability of inhabitants 2. The positive attitude of the populace 3. The denizens are striving diligently to preserve diverse cultural heritages 4. The exhaustive and thoughtful guide service (Sastre, 2017; Kim, 2019)
3. Cultural experience	1. To experience unique cultures different from my own 2. To observe the lifestyles and ways of living of others 3. To encounter and interact with diverse groups of people 4. To have experiences with new cultures and lifestyles (Adel H., 2015; Huang, 2015)	3. Infrastructure facilities	1. The accommodations and dining options are diverse and of high quality 2. Ensuring the quality of transportation infrastructure 3. Diverse and well-matched
4. Knowledge	1. To enhance my knowledge and experience of a different destination 2. To learn new things that will broaden my perspective 3. To improve my mental and intellectual well-being		

	(Chen, 2010; Ekinci, 2013; Huang, 2015; Adel H., 2015)		entertainment facilities to meet the needs 4. The information system effectively meets the requirements (Chih, 2014; Smith, 2014)
5. Personal	1. The desire to travel and explore 2. The desire to learn new things 3. The desire to spend time with family and friends (Aquino RS, 2017; Huang, 2015; Adel H., 2015), (experts' viewpoints).	4. Destination information	1. Easily find tourist destination information 2. The availability of travel-related information 3. All information about destinations is complete and regularly updated 4. Location feedback can be easily found (Jumrin Said, 2018; Oh, 2008; Wang, 2011)
* Push motivation scale	1. I feel the urge to travel to the Central Highlands 2. I have a personal desire to travel to or continue traveling to the Central Highlands 3. The primary motivation for traveling to the Central Highlands stems from my own needs and desires (Experts' viewpoints).	5. Reachability	1. Appropriate travel distance 2. Accessibility of the destination or ease of access 3. The location of the destination 4. The abundance of means of transport (Choi, 2017; Tepelus, 2018; Jovicic, 2019)
* Pull motivation scale	1. There are many factors that motivate me to visit the Central Highlands 2. The tourism industry in the Central Highlands is impressive and alluring, and I am eager to explore it 3. The primary reason I travel to the Central Highlands is because of the destination's allure (Experts' viewpoints).	6. Personal	1. Be attracted by a destination that has hot spots and various services 2. Be attracted to a destination that provides many unique things 3. Be attracted by a destination that will please family and friends 4. Be attracted to a destination that can pamper, treat, cure, or take out stressful things in life (Jumrin Said, 2018), (experts' viewpoints)

Source: the author's research

Based on the aforementioned model and scale, the author develops eleven research hypotheses. These hypotheses consist of five independent variables that positively affect push motivation for tourism in the Central Highlands, namely escape, rest and relaxation, cultural experience, knowledge, and personal factors, as well as six independent variables that positively impact pull motivation for tourism in the Central Highlands, namely the destination's unique image, destination residents, infrastructure facilities, destination information, reachability, and personal factors.

3.3. Data collection

The research participants are tourists who visited the Central Highlands but are not currently residing in or employed in the region. Respondents were selected randomly and objectively to avoid any potential bias or discrimination, with no more than two individuals from the same travel group being surveyed. Data were collected between December 23, 2022, and February 28, 2023, in three cities in the Central Highlands area: Da Lat, Buon Ma Thuot, and Pleiku, with approximately 300 votes collected in each city. The survey, which aimed to measure both pull and push factors, used a 5-level Likert scale. To ensure an adequate sample size, the author followed Hair's (Hair, 2014) recommendation that a minimum of 50 observations is required for exploratory factor analysis, with

a ratio of 5:1 or 10:1 for observations to analytes. With 49 questions in the survey, the required sample size was estimated to be 490, using the 10:1 ratio. To increase representativeness, the author increased the sample size, and after verifying and eliminating inadequate responses, 745 satisfactory responses were obtained. Therefore, the designated sample size for the study was 745.

3.4. Data Analysis

The sequence of data analysis is presented below:

Step 1. To evaluate the reliability of a scale, use Cronbach's alpha coefficient. A coefficient of 0.8 or higher indicates a very good scale, while 0.7 to less than 0.8 is considered good, and a score of 0.6 or above is suitable for use in novel research contexts. It's important to note that the correlation coefficient between the variable and Cronbach's alpha should be greater than 0.3; otherwise, the variable should be removed from the data (Hoang Trong, 2008).

Step 2. Perform exploratory factor analysis (EFA) to identify and examine the factors that influence push and pull motivation. According to (Hair, 2019), factor loading is a crucial criterion for assessing the practical significance of EFA. For a sample size of 745, a factor loading of $>=0.4$ is used, and the extracted variance standard should be at least 50%. Additionally, (Hoang Trong, 2008) highlighted that KMO is a critical indicator for assessing the suitability of EFA. A KMO value between 0.5 and 1 and a statistically significant Bartlett's test ($\text{sig.}<0.05$) indicate that the observed variables are correlated in the population.

Step 3. Confirmatory factor analysis (CFA) is utilized to evaluate data fit by employing indices such as Chisquare/df, CFI, TLI, GFI, and RMSEA to confirm the factor structures, appraise the quality of the observed variables, and assess the convergence and discriminant of the variable structures. According to (Hair, 2019), the criteria for evaluating model fit are as follows: $\text{CMIN}/\text{df}\leq 2$ is good; $\text{CMIN}/\text{df}\leq 5$ is acceptable; $\text{CFI}\geq 0.9$ is good; $\text{CFI}\geq 0.95$ is very good; $\text{CFI}\geq 0.8$ is acceptable; $\text{GFI}\geq 0.9$ is good; $\text{GFI}\geq 0.95$ is very good; $\text{RMSEA}\leq 0.08$ is good; and $\text{PCLOSE}\geq 0.05$ is good; $\text{PCLOSE}\geq 0.01$ is acceptable.

Step 4. Run an SEM analysis on AMOS to test theoretical models, confirm factor structures, assess model fit, and evaluate the strength and direction of relationships among variables. SEM analyses provide a comprehensive framework for examining complex relationships among latent and observed variables and allow for the testing of multiple hypotheses simultaneously.

Step 5. To appraise the discrepancy in the structural equation modeling (SEM) induced by different values of the qualitative variable, the multi-group structure was examined. This study was conducted in accordance with (Hair, 2019) traditional approach to assess the difference in Chi-square values linked to degrees of freedom (df) between the variable and the invariant models. The variable model assumes that the structure of the model can differ across groups, while the invariant model assumes that the structure of the model is the same across groups. After evaluating the SEM for the two models, the respective chi-square values and degrees of freedom (df) were derived for the analysis. The difference in degrees of freedom between the two models was ascertained using the chi-square test, assuming that certain conditions apply.

- Hypothesis (H_0) states that there is no difference between the invariant and variable models.

- Hypothesis (H_1) suggests that there is a distinction between the two models.

If the p-value is greater than 0.05 and H_0 is not rejected, the study will opt for the invariant model due to its higher degrees of freedom to explain the results. However, if the p-value is less than 0.05 and H_0 is rejected, it indicates a significant difference between the two models. In this case, the variable model will be chosen to elucidate the findings.

4. Results

4.1. Checking the reliability of the scale

The summary of Cronbach's alpha analysis results for the factors is presented in the following table:

Table 3. Results of the reliability test for the scale

Push motivation					Pull motivation						
Variable	Symbol	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha	Variable	Symbol	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha		
Escape (ES)	ES1	.857	.859	.916	The destination's unique image (DI)	DI1	.713	.812	.851		
	ES2	.831	.879			DI2	.730	.810			
	ES3	.806	.899			DI3	.705	.817			
Knowledge (K)	K1	.800	.877	.906		DI4	.664	.822			
	K2	.812	.866			DI5	.635	.827			
	K3	.827	.854			DI6	.455	.871			
Rest and Relaxation (R)	R1	.625	.490	.678	Destination residents (DP)	DP1	.519	.299	.512		
	R2	.594	.518			DP2	.466	.340			
	R3	.003	.808			DP3	.513	.317			
	R4	.643	.470			DP4	.048	.848			
Cultural experience (EX)	EX1	.781	.851	.891	Infrastructure facilities (DIN)	DIN1	.833	.914	.932		
	EX2	.755	.861			DIN2	.849	.909			
	EX3	.729	.872			DIN3	.839	.912			
	EX4	.776	.853			DIN4	.844	.911			
Personal (PS)	PS1	.734	.867	.881	Destination information (IND)	IND1	.288	.694	.643		
	PS2	.786	.816			IND2	.544	.486			
	PS3	.793	.812			IND3	.474	.562			
* Push motivation	PUSH1	.815	.837	.897	Reachability (AP)	IND4	.455	.550			
	PUSH2	.799	.850			AP1	.659	.779			
	PUSH3	.776	.871			AP2	.593	.807			
						AP3	.678	.770			
* Pull motivation	PULL1	.551	.676	.741	Personal (PL)	AP4	.683	.768	.751		
	PULL2	.583	.636			PL1	.632	.653			
	PULL3	.569	.654			PL2	.659	.636			
						PL3	.374	.844			
						PL4	.658	.654			

Source: authors

The scale has high reliability, with most variables having a Cronbach's alpha coefficient greater than 0.7, indicating good use. However, one variable (destination information) has a Cronbach's alpha coefficient of just above 0.6, which is still acceptable. Variables R3, DP4, and IND1 have total correlation coefficients below 0.3 and will be removed to ensure scale reliability. Although removing variables DI6 and PL3 would increase the Cronbach's alpha coefficient, they will be retained since their correlation coefficients are still above 0.3 and will be considered in subsequent analyses.

4.2. The results of exploratory factor analysis (EFA)

The results of exploratory factor analysis for the push and pull variables indicate relatively good test results. The KMO coefficients for the two variables are 0.890 and 0.919, respectively, satisfying the condition of $0.5 < \text{KMO} < 1$. Thus, this dataset is appropriate for factor analysis. The Bartlett's test is used to determine the correlation between the observed variables in the factor. The sig. value of both push and pull tests is 0.000, which is less than 0.05, indicating that these observed variables are correlated in the population with each other, and this dataset is suitable for exploratory factor analysis.

Table 4. Total variance explained by extracted factors

Comp-onent	Push motivation						Pull motivation					
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%
1	6.415	40.094	40.094	6.415	40.094	40.094	7.992	33.300	33.300	7.992	33.300	33.300
2	2.460	15.376	55.470	2.460	15.376	55.470	3.948	16.449	49.749	3.948	16.449	49.749
3	2.151	13.444	68.914	2.151	13.444	68.914	1.678	6.990	56.739	1.678	6.990	56.739
4	1.353	8.459	77.374	1.353	8.459	77.374	1.294	5.392	62.131	1.294	5.392	62.131
5	.474	2.964	80.338				1.100	4.583	66.714	1.100	4.583	66.714
6	.430	2.687	83.025				.825	3.436	70.150			
7	.405	2.532	85.558				.753	3.137	73.287			

Source: authors

According to Hair (2014), only factors with eigenvalues (also known as latent roots) of 1 or more will be considered significant and retained. Table 6 shows that the eigenvalue for the 4th factor is 1.353, which is greater than 1, while for the 5th factor, it is only 0.474, indicating that the extraction process should stop at the 4th factor. This demonstrates that four variables have been extracted. The total variance extracted is over 50%, indicating that the four factors extracted can account for 77.374% of the variation in the observed variables involved in the EFA. The data processing results presented in this table suggest that the extracted factors are statistically significant and can be used for further analysis.

Table 5. Test results of the rotated component matrix

	Push motivation				Pull motivation					
	1	2	3	4		1	2	3	4	5
K3	.85 7				AP1 5	.75 5				
K1	.85 6				IND3 3	.70 3				
EX 1	.85 6				AP2 9	.69 9				
K2	.85 1				AP4 0	.69 0				
EX 4	.84 7				AP3 9	.67 9				
EX 2	.82 5				IND2 6	.61 6				
EX 3	.80 0				IND4 2	.60 2				
ES 1		.89 9			DI6					
ES 2		.88 5			DI3		.76 7			

ES 3		.86 6			DI2		.73 7			
PS 1			.861		DI4		.71 9			
PS 2			.860		DI1		.71 7			
PS 3			.853		DI5		.69 2			
R4				.86 9	DIN2			.905		
R1				.85 4	DIN4			.901		
R2				.82 5	DIN3			.894		
					DIN1		.889			
					PL2				.77 1	
					PL1				.76 4	
					PL4				.73 2	
					PL3					
					DP1					.86 7
					DP3					.85 7
					DP2					.84 0

Source: authors

Most variables with loading factors greater than 0.8 (the minimum requirement is greater than 0.4) are not hidden in the push motivation rotation matrix, indicating that the observed variables are highly statistically important. However, the scales of two variables, knowledge (K1, K2, K3) and cultural experience (EX1, EX2, EX3, EX4), converge on one factor in the rotation matrix, so the author will adjust the model and combine these two variables into one. The new variable will be renamed knowledge and cultural experience (KEX) after consulting experts. Since the variables DI6 and PL3 are not visible in the pull motivation, the author removes them from the model. The variables reachability (AP1, AP2, AP3, AP4) and destination information (IND2, IND3, IND4) will be combined into one variable, and the new variable will be called destination information and reachability (INDAP) after consulting experts. After excluding the variables R3, DP4, IND1, DI6, PL3, and following the proposed convergent scaling, the new research model has been adjusted to 4 independent variables for push motivation and 5 independent variables for pull motivation as follows:

Push motivation:

- Escape (E): includes three observed variables (ES1, ES2, ES4).
- Rest and Relaxation (R): includes three observed variables (R1, R2, R4).
- Knowledge and Cultural Experiences (KEX): includes seven observed variables (EX1, EX2, EX3, EX4, K1, K2, K3).

Personal (PS): includes three observed variables (PS1, PS2, PS3).

Pull motivation:

- The destination's unique image (DI): includes five observed variables (DI1, DI2, DI3, DI4, DI5).
- Destination Residents (DP): includes three observed variables (DP1, DP2, DP3).

- Destination Infrastructure and Facilities (DIN): includes four observed variables (DIN1, DIN2, DIN3, DIN4).

- Destination Information and Reachability (INDAP): includes seven observed variables (IND2, IND3, IND4, AP1, AP2, AP3, AP4).

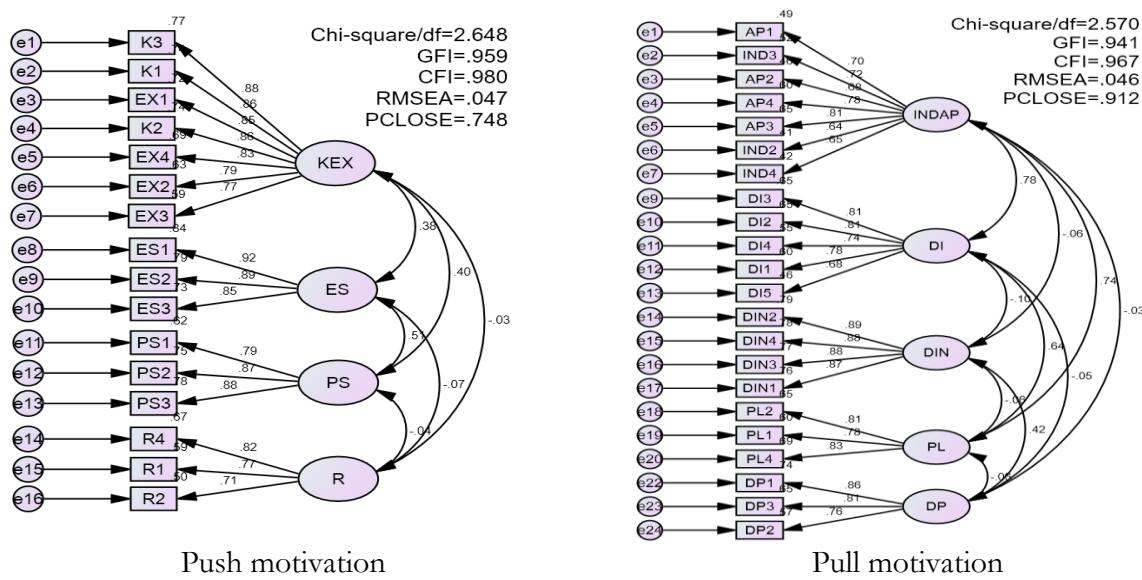
- Personal (PL): includes three observed variables (PL1, PL2, PL4).

Because the KMO coefficients for the dependent variables of push and pull motivation are greater than 0.5 and less than 1, and the significance level is less than 0.05, factor analysis is appropriate for both push and pull motivation. This finding was confirmed through confirmatory factor analysis (CFA).

4.3. Confirmatory factor analysis (CFA) findings

The chi-square coefficients of push and pull motives are both less than 3 (2.648 and 2.570, respectively). The GFI and CFI values for both motivations are greater than 0.9, with only the GFI of push motivation and the CFI of both motivations being greater than 0.95, which is a very good result. The RMSEA for both is 0.47 and 0.46, respectively, which is less than 0.06. Both PCLOSE values (0.748 and 0.912) are greater than 0.05. These findings demonstrate that the observed variables on the scale are consistent with other variables on the same scale and conform to the model. It is possible to infer that the model fits the survey data set well.

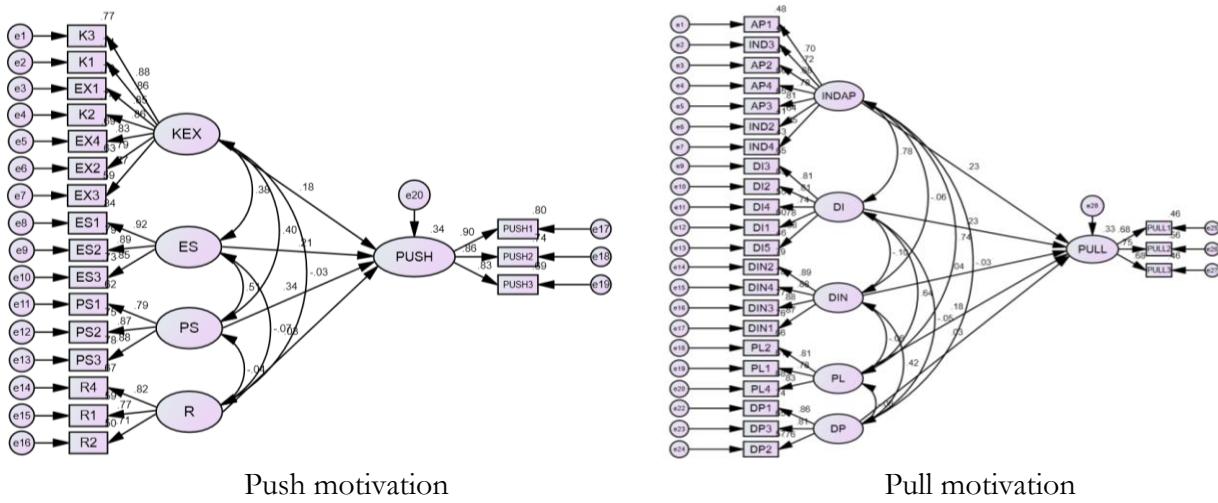
Figure 4. Results of confirmatory factor analysis (CFA)



Source: authors

4.4. The results of the structural equation modeling (SEM) analysis

Figure 5. The results of the structural equation modeling (SEM) analysis



Source: authors

Table 6. Summary of Regression Weights and Standardized Regression Weights

Push motivation		
	P	Estimate
PUSH<--KEX	***	.180
PUSH<--ES	***	.208
PUSH<--PS	***	.340
PUSH<--R	.470	.026
Squared Multiple Correlations: 0.341		
Pull motivation		
PULL<--PL	.010	.181
PULL<--DP	.554	.027
PULL<--DI	.002	.227
PULL<--INDAP	.009	.233
PULL<--DIN	.405	.036
Squared Multiple Correlations: 0.333		

Source: authors

Table 6 indicates that variables R, DP, and DIN have P coefficients of 0.470, 0.554, and 0.405, respectively, all greater than 0.05. This suggests that these independent variables have no effect on the dependent variables of push and pull motivation, and the author has therefore excluded them from the research model. The remaining variables KEX, ES, PS, PL, DI, and INDAP have P values less than 0.05 (0;0;0;0.010;0.002, and 0.009, respectively), indicating a strong relationship with the dependent variable, and they have been retained in the model.

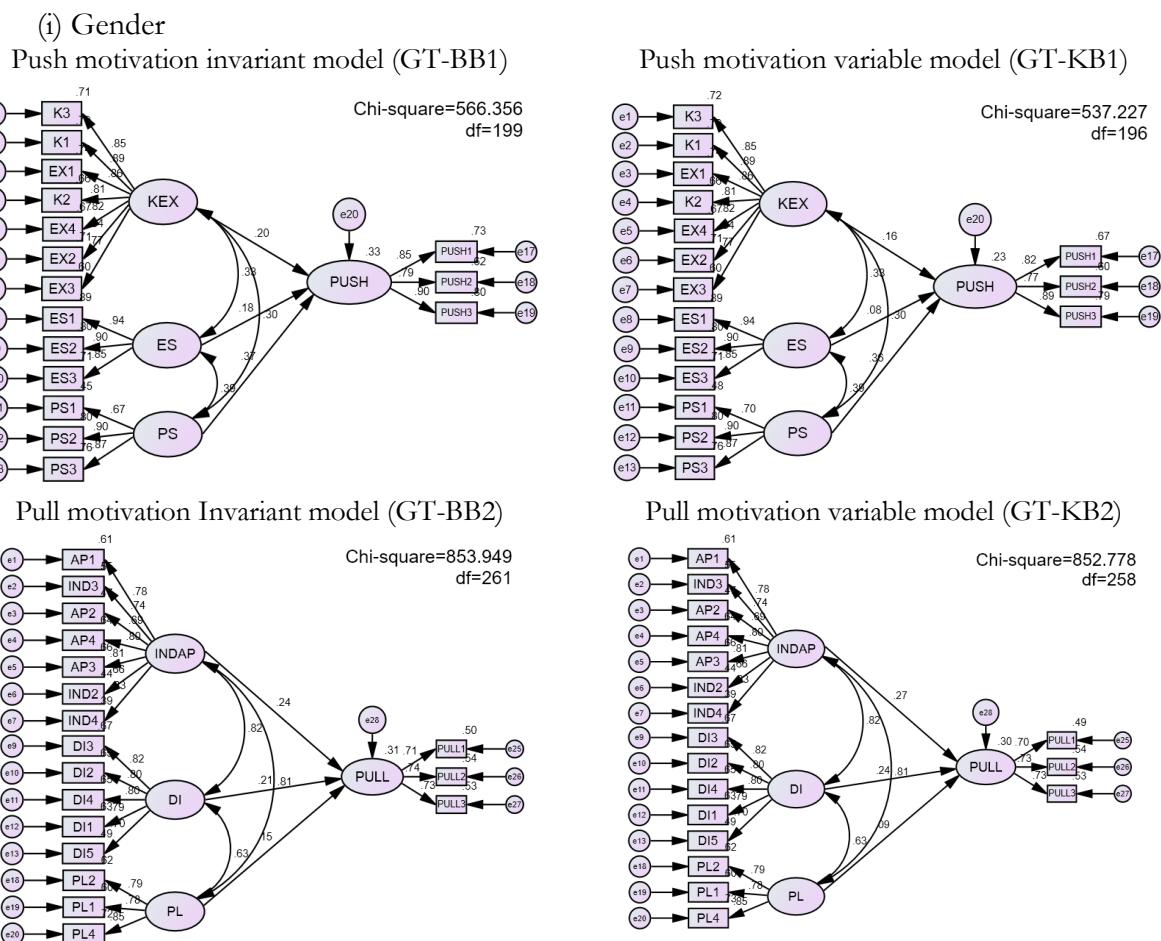
The selected independent variables have a positive influence on the dependent variable, as shown by the estimated coefficients. PS has the greatest impact on push motivation (estimate: 0.340), followed by ES (estimate: 0.208) and KEX (estimate: 0.108). For pull motivation, the greatest impact comes from INDAP (estimate: 0.233), followed by DI (estimate: 0.227), and finally PL (estimate: 0.181). The analysis results indicate that personal factors affect both push and pull motives, with a somewhat stronger effect on push motives.

To investigate the impact of moderating variables (gender and age) on the relationship between independent and dependent variables, the author conducted a multi-group analysis using AMOS. The difference in the Chi-square value with degrees of freedom (df) between the invariant model and the variable model was examined to determine if there were significant differences between different groups within the same model.

4.5. Multigroup analysis results in AMOS

Male respondents made up 56.1% of the participants. Age groups were: under 35 (23.4%), 25-34 (23.5%), 35-44 (33.2%), 45-54 (11%), and 55 and older (9%).

Figure 6. Multigroup analysis results in AMOS (by gender)



Source: authors

The findings are summarized in the table below:

Table 7. Summary of Regression Weights and Standardized Regression Weights (by gender)

	Push motivation		Pull motivation	
	Chi-square	df	Chi-square	df
Invariant (BB)	566.356	199	853.949	261
Variable (KB)	537.227	196	852.778	258

Difference	19.129	3	1.171	3
P-value	0.00025711		0.75996778	

Source: authors

The p-value for push motivation is $0.00025711 < 0.05$, rejecting hypothesis H0 and indicating a significant Chi-square difference between the variable and invariant models. Due to better model fit, the study selected the variable model (KB) to interpret the results. Conclusion: the impact of model variables differs among respondents of different genders.

For pull motivation, the p-value is $0.75996778 > 0.05$, so hypothesis H0 is not rejected, and the invariant model (BB) is selected to explain the findings because it has more degrees of freedom. Conclusion: there is no difference in the effect of model variables on respondents of different genders.

Table 8. Multigroup Analysis Results by gender

	Push motivation				Pull motivation				
	Male		Female			Male		Female	
	Standardized Regression Weights	P-value	Standardized Regression Weights	P-value		Standardized Regression Weights	P-value	Standardized Regression Weights	P-value
PUSH<---ES	.083	.133	.305	***	PULL<---ES	.154	.010	.198	.010
PUSH<---PS	.364	***	.285	***	PULL<---PS	.211	.002	.248	.002

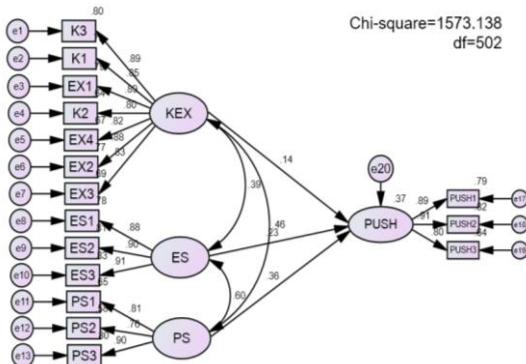
Source: authors

For push motivation, males have no significant effect on ES (p-value = 0.133, greater than 0.05), but they do have an effect on PS and KEX, with the greatest effect being on PS. On the other hand, females are affected by all three factors (ES, PS, and KEX), with ES being the most affected. In terms of pull motivation, gender has an influence on all PL, DI, and INDAP variables, with males having the most impact on INDAP, followed by DI, and lastly PL. Females have the most impact on DI, followed by INDAP, and lastly, PL.

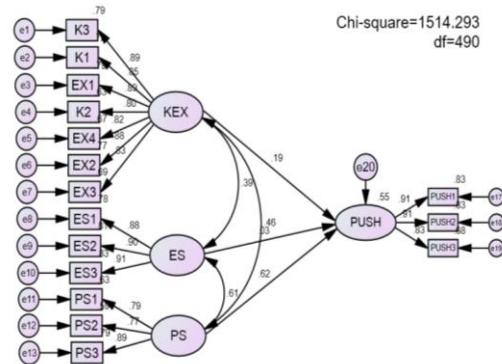
Figure 7. Multigroup analysis results in AMOS (by age)

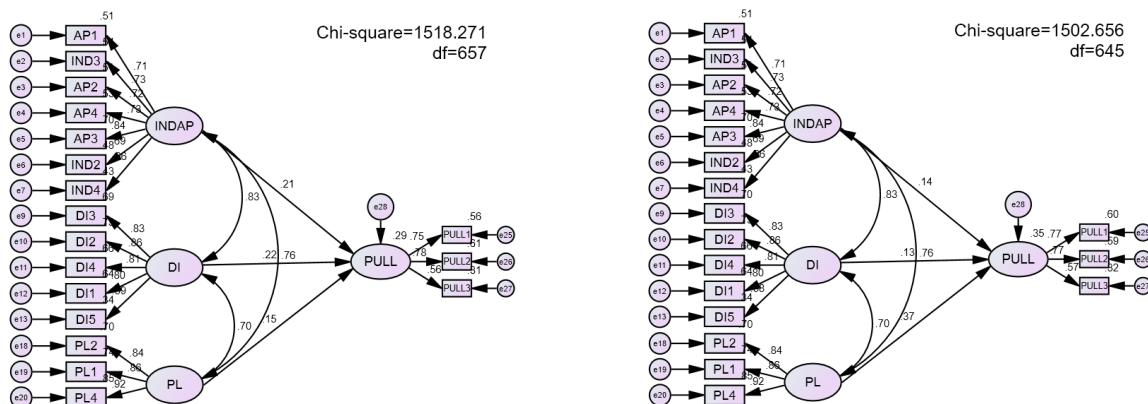
(ii) Age

Push motivation invariant model (AGE-BB1)


Push motivation invariant model (AGE-BB1)

Push motivation variable model (AGE-KB1)


Push motivation variable model (AGE-KB1)
Push motivation invariant model (AGE-BB2)
Push motivation variable model (AGE-KB2)



Source: authors

The findings are summarized in the table below:

Table 9. Summary of Regression Weights and Standardized Regression Weights (by age)

	Push motivation		Pull motivation	
	Chi-square	df	Chi-square	df
Invariant (BB)	1573.138	502	1518.271	657
Variable (KB)	1514.293	490	1502.656	645
Difference	58.845	12	15.615	12
P-value	0.00000004		0.20951274	

Source: authors

The p-value for push motivation is $0.00000004 < 0.05$, rejecting the null hypothesis (H_0) and indicating a significant difference between the variable and invariant models. Based on better compatibility, the study selected the variable model (KB) to interpret the results. Conclusion: the variables in the model have different effects on respondents of different ages.

For pull motivation, the p-value is $0.20951274 > 0.05$, and H_0 is not rejected. The study chose the invariant model (BB) to explain the findings due to its higher degrees of freedom. Conclusion: there is no difference in the effect of variables in the model on respondents of different ages.

Table 10. Multigroup Analysis Results by age

Push motivation										
	Less than 25		25-34		35-44		45-54		55 and above	
	Standardized Regression Weights	P- value								
PUSH<-ES	.030	.714	.107	.376	.224	***	.476	***	.373	.092
PUSH<-PS	.618	***	.336	.004	.246	.001	.159	.107	.539	.019
PUSH<-KEX	.191	.007	.162	.042	.144	.055	.200	.041	-.103	.251
Pull motivation										
PULL<-DI	.222	***	.277	***	.218	***	.219	***	.218	***
PULL<-INDAP	.211	.005	.267	.005	.195	.005	.209	.005	.256	.005
PULL<-PL	.155	.008	.199	.008	.156	.008	.185	.008	.129	.008

Source: authors

The impact of age on visitors' push motivation varies. Ages under 25 and 25 to 34 had no impact on the ES variable, but had a greater effect on the PS variable than on the KEX variable. From 35 to 44 years old, the KEX variable had no influence, the PS variable had the most impact, and the ES variable had the least impact. Ages 45 to 54 had no impact on PS; only the ES and KEX

variables were affected, with ES having a greater effect. Ages 55 and up only had an effect on the PS variable and had no effect on the ES or KEX variables. Age influenced all factors in pull motivation (DI, INDAP, and PL). DI had the greatest impact on people aged 54 and under, followed by INDAP, and lastly, the PL variable. The impact on the INDAP variable was greatest for those aged 55 and older, followed by DI, and lastly, the PL.

5. Discussion

The study has made significant theoretical and practical contributions to research on the motivations for domestic tourists in general and specifically for tourism motivations in the Central Highlands of Vietnam. The key contribution of this study lies in identifying motivations that arise from within tourists themselves, driving them to choose the Central Highlands of Vietnam as their tourism destination. Additionally, the study explores motivations that stem from the external attributes and attractiveness of the Central Highlands as a tourist destination - an aspect that very few authors have examined before.

The research results reveal that the motivations prompting domestic tourists to choose tourism in the Central Highlands of Vietnam encompass personal factors, escapism, knowledge and cultural experiences. Among these motivations, the most impactful factor influencing domestic tourists' choice of tourism in the Central Highlands of Vietnam is the personal factor (estimated at 0.340). It is followed by escapism (estimated at 0.208), with knowledge and cultural experiences being the least influential (estimated at 0.108). This contrasts with previous studies that highlighted motivations such as novelty seeking, cultural exploration, and relaxation (Maghrifani, 2021; Milohnic, 2019; Sangpikul, 2009; Zaytseva, 2017). There is also variation in opinions regarding the most crucial motivation. For instance, some studies suggest escapism as the primary factor (Aquino RS, 2017; Jeong, 2014; Karasakal, 2018). These discrepancies might arise from differing cultural attributes among tourists from various countries or study locations. Nevertheless, concerning the three drivers with escape-related elements, this outcome is consistent with prior research (Katsikari, 2020; Khuong, 2014; Rojan Baniya, 2016).

In terms of pull motivations, the factors that arise from within tourists, driving them to choose tourism in the Central Highlands of Vietnam, include (in descending order of impact): destination information and accessibility (estimated at 0.233), followed by the destination's unique image (estimated at 0.227), and finally, personal factors (estimated at 0.181). These findings align with previous studies conducted in various tourist markets (Arabatzis, 2009; Aref, 2010; Nikjoo, 2015). Notably, the novel aspect of this research is the significance of personal factors, a relatively uncommon finding in earlier research outcomes.

It's evident that personal factors influence both push and pull motivations in tourists' decision-making processes when visiting the Central Highlands. This discovery is pioneering compared to previous studies, especially since very few have explored push motivations associated with personal factors, and pull motivation factors have also received minimal attention. This finding lays the groundwork for more comprehensive investigations into the role of individual factors in shaping tourism motivations across different destinations and categories.

Gender and age are both demographic variables that significantly affect the impact of independent variables on the dependent variable. In the case of push motivation, males have no effect on the escape variable but have a stronger impact on the personal variable and the cultural experience variable. On the other hand, for females, the object has an impact on all three variables in descending order of importance: escape, personal, knowledge and cultural experience. When it comes to pull motivation, gender influences all variables in the model. Men have the strongest impact on the information and reachability variables, followed by the destination's unique image

variable, and then the personal variable. Women, on the other hand, have the strongest influence on the destination's unique image variable, followed by the information and reachability variable, and lastly the personal variables.

Regarding age, each age group has a different impact on the variables. Specifically, the age group of 35 to 54 has an effect on the escape variable. Most age groups (except for the age group of 45 to 54) have an impact on the personal variable. The knowledge and cultural experience variables are influenced by the age groups under 25, 25 to 34, and 45 to 54. For pull motivation, age influences all variables in the study model. The age group under 25 and from 35 to 54 has the greatest influence on the destination's unique image variable. The age groups of 25 to 54 and 55 and older have the greatest influence on the information and reachability variable.

With push motivation, variables originate from visitors' own needs and desires and are not affected by external factors. Understanding factors contributing to tourist motivation can help destinations read visitors' tastes and serve their desires, resulting in higher satisfaction. Personal factors have the greatest influence on push motivation. Thus, Central Highlands should develop travel programs and activities for visitors to discover the land's typical elements, learn new things, and connect better with family and friends. Escape is the second factor that influences push motivation, so Central Highlands must concentrate on developing tourism sites and attractions in quiet and deserted areas for visitors to rest and unwind. The third factor influencing motivation is gaining knowledge and cultural experience, which requires developing and preserving indigenous cultural aspects to prevent the loss of local culture. Therefore, tourism in the Central Highlands should focus on the resort factor and cultural value preservation.

The pull factor originates from Central Highlands tourist destinations. Building an attractive image through marketing and promotion can stimulate and form a pull factor for visitors. The strongest impact on tourists' motivation to travel to the Central Highlands is destination information and reachability. Therefore, local governments should regularly update information, include pictures, provide detailed services, and share information to make it easily accessible. The Central Highlands should study and collaborate with large markets to promote and open more routes. The second factor is the destination's unique image, so the community must research and develop unique areas and attractions. Safety, security, and pollution control should also be focused on. Creating a destination with many unique elements is one of the ways to attract tourists today, as personal factors influence tourist motivation.

The research focuses on evenly distributed provinces in the Central Highlands region and is an important foundation for future development planning. However, since each place has its own geography, resources, and marketing methods, the study's results cannot be applied universally. Thus, more specific studies on push and pull motives for each province are required for a development plan that aligns with the actual situation. In-depth studies are also needed to understand what tourists in the Central Highlands will need in the future.

6. Conclusion

The research has used the push-pull theory in order to elucidate the complex motives that underlie the decision-making process of domestic visitors when selecting Vietnam's Central Highlands as their destination. The author's study endeavor has provided valuable insights that enhance both theoretical understanding and practical applications in the tourism industry of the Central Highlands. The main contribution of this research is its ability to identify and analyze the dynamic relationship between push and pull motives, highlighting their significant impact on visitors' decision-making processes. Through the process of delineating these discrete reasons, the research has provided a thorough viewpoint on the many variables that allure visitors to the Central

Highlands, as well as those that originate from within the tourists themselves. This comprehensive comprehension is a groundbreaking addition, particularly in light of the limited amount of research that examines the interconnectedness of push and pull motives while also highlighting the significance attributed to individual components.

The results highlight the significant influence of individual characteristics on both push and pull motives. This discovery offers significant insights for the tourist industry in the Central Highlands, enabling them to customize their services and tactics in accordance with the specific demands and preferences of visitors. Furthermore, the research emphasizes the significance of escapism, knowledge and cultural experiences as key factors in motivating individuals to engage with a particular destination. This underscores the need for efforts that enable tourists to actively explore and experience the unique characteristics of the location. Regarding the aspect of pull motivation, the study highlights the importance of destination information and accessibility, together with the destination's unique image associated with the location. Significantly, this research acknowledges the influential impact of demographic factors, particularly gender and age, in defining the motives of visitors. The observed disparities in impact across different gender and age cohorts emphasize the need for customized approaches that address the varying preferences and needs of individuals.

This research provides significant information for stakeholders, politicians, and industry participants to enhance the tourist experience in the growing destination of the Central Highlands area. By recognizing and addressing the diverse range of incentives that compel individuals to visit the Central Highlands, the tourism industry can strategically position itself for long-term development and enhance the quality of tourist experiences. In conclusion, our study has shed light on the complexities of push and pull motives within the specific setting of Vietnam's Central Highlands, providing a valuable contribution to the wider comprehension of tourist decision-making mechanisms. The study's intricate results provide a foundation for the development of focused plans and actions that will influence the trajectory of tourism in this appealing location.

Despite the useful insights gathered from this research, various limitations should be noted. One of the study's noteworthy shortcomings is that it only covers a few tiny locations in Vietnam's Central Highlands. As a consequence, the results may not be entirely typical of other geographical and cultural situations, thereby limiting the generalizability of this region's conclusions. Furthermore, relying on self-reported data from survey participants may introduce bias or subjectivity into the findings. Respondents may provide responses that they believe are socially acceptable or are affected by their present state of mind, which may affect the accuracy of the data obtained. While the research's emphasis on demographic characteristics such as gender and age is important, it may ignore other essential elements that may also contribute to visitors' motives, such as socioeconomic background, travel experience, and personal preferences. Finally, the study's short length (just over two months) may not account for seasonal differences in visitor motives. Tourism habits and tastes may fluctuate at different times of the year, limiting the data's validity across seasons. While this study adds to our knowledge of domestic visitors' motives in Vietnam's Central Highlands, its limitations highlight the need for caution in interpretation and the opportunity for more extensive studies in the future.

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