

# THE IMPACT OF PUSH AND PULL FACTORS ON INTERNATIONAL STUDENTS' LOYALTY: EXAMINING THE MEDIATING ROLE OF SATISFACTION

## *O IMPACTO DOS FATORES DE ATRAÇÃO E REPULSÃO NA LEALDADE DE ESTUDANTES INTERNACIONAIS: EXAMINANDO O PAPEL MEDIADOR DA SATISFAÇÃO*

Article received on: 8/15/2025

Article accepted on: 11/14/2025

**Norshamliza Chamhuri\***

\*Center for Sustainable and Inclusive Development Studies, Faculty of Economics and Management, National University of Malaysia, Bangi, Selangor, Malaysia  
[norshamliza@ukm.edu.my](mailto:norshamliza@ukm.edu.my)

**Jing Jing Liu\*\***

\*\*Wenzhou Business College, Wenzhou, China  
[liu.jingjing121226@gmail.com](mailto:liu.jingjing121226@gmail.com)

**MD Shafiin Shukor\*\*\***

\*\*\*Faculty of Economics and Management, National University of Malaysia, Bangi, Selangor, Malaysia  
[shafiinshukor@gmail.com](mailto:shafiinshukor@gmail.com)

**Trisetia Wijijayanti\*\*\*\***

\*\*\*\*Department of Management, Faculty of Economics and Business, Universitas Negeri Malang, Malang, East Java, Indonesia  
[trisetia.wijijayanti.fe@um.ac.id](mailto:trisetia.wijijayanti.fe@um.ac.id)

**Norlida Hanim Mohd Salleh\***

\*Center for Sustainable and Inclusive Development Studies, Faculty of Economics and Management, National University of Malaysia, Bangi, Selangor, Malaysia  
[ida@ukm.edu.my](mailto:ida@ukm.edu.my)

**Azmafazilah Jauhari\*\*\***

\*\*\*Faculty of Economics and Management, National University of Malaysia, Bangi, Selangor, Malaysia  
[azma@ukm.edu.my](mailto:azma@ukm.edu.my)

The authors declare that there is no conflict of interest

### Abstract

This study examines the impact of push and pull factors on international student loyalty in Malaysian higher education, focusing on the mediating role of student satisfaction. Push factors include limited higher education opportunities in students' home countries, economic challenges, and political instability. Meanwhile, pull factors such as education quality, affordable living costs, institutional reputation, and cultural diversity play a significant role in attracting students to Malaysia. Using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS) approach, this study analyzes data from 512 international students enrolled in public higher education institutions in Malaysia. The findings reveal that

### Resumo

*Este estudo examina o impacto dos fatores de empulsa e atração na lealdade dos estudantes internacionais no ensino superior malaio, focando no papel mediador da satisfação dos estudantes. Fatores de pressão incluem oportunidades limitadas de ensino superior nos países de origem dos estudantes, desafios econômicos e instabilidade política. Enquanto isso, fatores de atração como qualidade da educação, custos de vida acessíveis, reputação institucional e diversidade cultural desempenham um papel significativo na atração de estudantes para a Malásia. Utilizando Modelagem de Equações Estruturais (SEM) com a abordagem de Mínimos Quadrados Parciais (PLS), este estudo analisa dados de 512*



pull factors have a significant direct effect on student satisfaction and loyalty. Conversely, push factors do not show a significant effect on satisfaction or loyalty. Additionally, student satisfaction serves as a partial mediator in the relationship between pull factors and student loyalty, indicating that campus experience and support services play a crucial role in shaping international students' loyalty. These findings emphasize that the attractiveness of institutions and the Malaysian educational environment play a crucial role in ensuring international students' satisfaction and loyalty. This study contributes to providing insights for policymakers to strengthen Malaysia's competitiveness as a global education destination.

**Keywords:** Push Factors. Pull Factors. Student Satisfaction. Student Loyalty. Structural Equation Modeling (SEM-PLS).

*estudantes internacionais matriculados em instituições públicas de ensino superior na Malásia. Os resultados revelam que fatores de atração têm um efeito direto significativo na satisfação e lealdade dos estudantes. Por outro lado, os fatores de pressão não demonstram um efeito significativo sobre satisfação ou lealdade. Além disso, a satisfação dos estudantes atua como mediadora parcial na relação entre fatores de atração e lealdade estudantil, indicando que a experiência no campus e os serviços de apoio desempenham um papel crucial na formação da lealdade dos estudantes internacionais. Esses achados enfatizam que a atratividade das instituições e do ambiente educacional malaio desempenham um papel crucial na garantia da satisfação e lealdade dos estudantes internacionais. Este estudo contribui para fornecer insights aos formuladores de políticas para fortalecer a competitividade da Malásia como destino global de educação.*

**Palavras-chave:** Fatores de Repulsão. Fatores de Atração. Satisfação do Aluno. Fidelização do Aluno. Modelagem de Equações Estruturais (SEM-PLS).

## 1 INTRODUCTION

Higher education institutions worldwide are increasingly competing to attract and retain students, particularly in the context of international education. Student loyalty has emerged as a crucial factor in ensuring long-term institutional success, as loyal students are more likely to complete their studies, recommend their institutions, and engage in alumni activities (Almanwari *et al.*, 2024). In the Malaysian higher education sector, student loyalty is influenced by a combination of push and pull factors, which either drive students away from their home countries or attract them to Malaysia as a study destination (Hailat *et al.*, 2022). Understanding these factors is essential for developing effective strategies to enhance student satisfaction and retention.

Despite the increasing importance of student loyalty, it is of great significance to identify the key determinants that shape students' commitment to their chosen universities (Khalid *et al.*, 2020; Todea *et al.*, 2022). While push factors, such as limited higher education opportunities in students' home countries, contribute to students' decisions to study abroad, pull factors, including the quality of education, affordability, and cultural diversity, play a significant role in attracting students to Malaysia (Teah, 2019). However, the interplay between

these factors, their impact on student loyalty and the mediating role of satisfaction between these relationships are still less explored. Besides, the empirical evidence is still limited in the Malaysian context, despite the fact of Malaysia's position as a preferred educational hub.

Existing literature on student mobility and loyalty has highlighted various push and pull factors that influence students' decisions. Push factors typically refer to constraints in the home country, such as limited access to higher education, economic challenges, and political instability (Chirkov *et al.*, 2007; Hailat *et al.*, 2022). Moreover, previous studies have often overlooked the role of push factors in shaping students' decision-making processes in Malaysia (Aminudin *et al.*, 2023; Khalid *et al.*, 2020; Todea *et al.*, 2022). In contrast, pull factors encompass attractive features of the host country, including the reputation of institutions, cost-effectiveness, employment opportunities, country image, and socio-cultural environment (Abubakar *et al.*, 2014; Aminudin *et al.*, 2023; Mazzarol and Soutar, 2002; Negm, 2018).

Studies have also suggested that student satisfaction plays a crucial mediating role, increasing the likelihood of students developing loyalty toward their institution. However, previous research has primarily measured satisfaction based on students' general perceptions of their university choice (Almanwari *et al.*, 2024; Kuo and Wong, 2019; Nurlida *et al.*, 2010), reputation, overall service quality, and academic/non-academic services (Amzat *et al.*, 2023), without capturing the specific institutional factors that shape their overall experience. This study addresses this gap by examining satisfaction in terms of campus experience and support services, particularly for international students in Malaysia. Thus, despite the growing body of research on international student mobility, there is need for a comprehensive analysis that integrates push and pull factors, satisfaction, and loyalty within a single framework in the Malaysian higher education context.

The primary objective of this study is to examine the impact of push and pull factors on student loyalty, with a particular focus on the mediating role of satisfaction. Specifically, the study aims to (1) identify the key push and pull factors influencing students' decisions to study in Malaysia, (2) assess the direct impact of these factors on student loyalty, and (3) analyze the mediating effect of satisfaction in this relationship. Theoretically, this study contributes to the existing body of knowledge on student mobility and loyalty by integrating push-pull dynamics with satisfaction as a mediating variable. Practically, this study also offers insights for policymakers in designing policies that strengthen Malaysia's appeal as a higher education destination, ensuring sustainable growth in the international student population.

## 2 THEORETICAL FRAMEWORK AND LITERATURE REVIEW

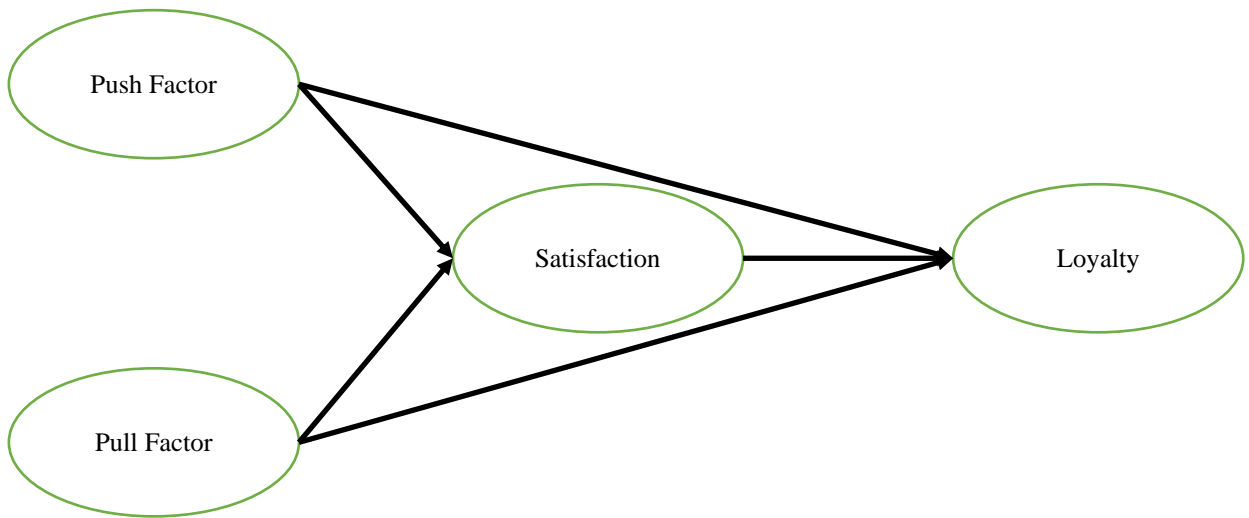
Figure 1 presents the theoretical framework for the decision-making process of international students when choosing a higher education institution, highlighting the influence of both push and pull factors. Push factors refer to the conditions in students' home countries that encourage them to pursue education abroad, such as limited university seats, lack of quality education, and economic constraints. On the other hand, pull factors are the attractive characteristics of the host country and institution, such as reputation, affordability, and social environment, which influence students' enrollment decisions.

This study integrates expectation-confirmation theory (Oliver, 1980) and the student satisfaction-loyalty model to examine how these factors contribute to student satisfaction and loyalty in Malaysian higher education institutions. Expectation-confirmation theory suggests that students develop expectations before enrollment, and their satisfaction depends on whether these expectations are met. Meanwhile, satisfaction leads to loyalty in the form of positive word of mouth and the pursuit of another degree (Alves and Raposo, 2007).

### 2.1 Relationship between push factors and students' satisfaction

The decision to pursue higher education abroad is often influenced by various push factors originating from students' home countries. These factors create circumstances that drive students to seek educational opportunities elsewhere, shaping their expectations and overall satisfaction with their chosen institutions.

One of the primary push factors is the limited access to quality education in students' home countries. Hailat *et al.* (2022) highlight that many students opt to study abroad because their home universities have a restricted number of available seats, making it difficult for them to secure admission. This constraint forces students to explore international alternatives, where they expect better educational resources, infrastructure, and academic support. As a result, their satisfaction with foreign institutions is closely linked to the fulfillment of these expectations.

**Figure 1***Theoretical Framework*

Economic challenges also play a crucial role in pushing students to seek education abroad. Countries with struggling economies often experience high unemployment rates, limited funding for higher education, and inadequate research opportunities. Chien (2015) asserts that a lack of opportunities at home, particularly in terms of career prospects and academic growth, compels students to look beyond their borders for a more promising future. These students perceive studying abroad as a means of gaining a competitive edge in the global job market, which in turn influences their level of satisfaction with the host institution.

Political instability is another significant push factor affecting student mobility. In countries experiencing political unrest, students may face disruptions in their education, restrictions on academic freedom, and safety concerns. The desire for stability and a conducive learning environment motivates students to study in countries with strong governance and institutional support. Their satisfaction with the host university is therefore influenced by the extent to which it provides a secure and enriching academic experience.

Given these push factors, it is hypothesized that they have a direct influence on students' satisfaction by shaping their expectations of studying abroad. Students who leave their home countries due to these constraints tend to evaluate their international education experience based on how well it addresses the deficiencies they face at home. Understanding the relationship between push factors and students' satisfaction is essential for higher education institutions seeking to attract and retain international students. Thus, we propose the following hypothesis:

**Hypothesis 1:** Push factors influence students' satisfaction by shaping their expectations of studying abroad.

## 2.2 Relationship between pull factors and students' satisfaction

Pull factors play a significant role in shaping international students' satisfaction with their chosen higher education institution. These factors generally relate to the attractiveness of the host country and the perceived benefits of studying abroad. Prior studies have identified key dimensions of pull factors, such as political stability, economic advantages, and cultural aspects, as significant contributors to students' experiences and satisfaction levels.

A study by Aminudin *et al.* (2023) confirmed that the primary pull factors influencing international students' choice of host country include the use of English as a medium of instruction, the quality of education, and cultural comfort. Similarly, Khalid *et al.* (2020) found that international students in Malaysia are highly likely to recommend the country to friends and relatives due to factors such as affordable education, research facilities, the credibility of Malaysian universities, and lower tuition fees.

One of the most critical concerns for international students is the stability and security of the host country. Research by Thái (2013), Hui (2014), and Mazzarol and Soutar (2002) highlights that political stability and a safe environment contribute significantly to student satisfaction. A country with a low crime rate and strong law enforcement creates an ideal atmosphere for international students, enabling them to focus on their academic and personal growth. This aspect is particularly crucial for students from politically unstable regions, as they seek a secure and supportive learning environment.

Affordability is another key pull factor that influences students' satisfaction with their academic experience abroad (Bodycott, 2009; Padlee *et al.*, 2010). The financial burden of studying overseas primarily consists of tuition fees and living expenses. Lower study costs have been linked to higher satisfaction levels among international students (Thoo *et al.*, 2022). According to Amaro *et al.*, (2019), Negm (2018), and Abubakar *et al.* (2014), financial considerations strongly impact students' choice of study destination. Countries offering affordable tuition fees and lower living costs than students' home countries tend to enhance overall student satisfaction (Ahmad and Buchanan, 2017). Since financial stress can be a major concern for international students, a combination of cost-effective education and high-quality academic programs significantly improves their academic experience and well-being (Amaro *et al.*, 2019).

Additionally, the socio-cultural environment of the host country plays a crucial role in determining student satisfaction. Amaro *et al.*, (2019) emphasize that factors such as cultural diversity, social integration, and opportunities for meaningful interactions with the local

community shape students' overall experiences. Ahmad and Buchanan, (2017) further suggest that cultural similarities, ease of communication, and a welcoming local environment facilitate student adaptation and comfort in their new surroundings. Positive social interactions and the ability to integrate into local culture enhance students' academic experiences and personal well-being. Based on the existing literature, this study hypothesizes:

**Hypothesis 2:** Pull factors directly impact students' satisfaction.

### 2.3 Relationship between student satisfaction and loyalty

Student satisfaction has been widely recognized as a key determinant of student loyalty in higher education. Studies have consistently shown that satisfied students are more likely to engage positively with their institution, recommend it to others, and exhibit continued commitment (Almanwari *et al.*, 2024; Amaro *et al.*, 2019; Mucsi, 2021).

In the context of international students, satisfaction is shaped by multiple factors, including campus experience and support services. These factors encompass student welfare, general support services, learning support systems, tuition fees, accessibility of campus facilities, transportation, and social integration. Research suggests that institutions that effectively address these aspects can enhance students' overall experience, thereby strengthening their emotional and behavioral commitment (Ahmad and Buchanan, 2017; Negm, 2018).

Higher education institutions benefit from fostering student loyalty, as loyal students contribute to positive word-of-mouth marketing, increased retention rates, and stronger alumni networks (Amaro *et al.*, 2019). In particular, international students' satisfaction can significantly impact institutional reputation, as they serve as global ambassadors who influence prospective students' decisions (Almanwari *et al.*, 2024).

Despite extensive research on student satisfaction and loyalty, previous studies have primarily measured satisfaction in broad institutional terms such as university reputation, general service quality, and academic programs, without examining how specific campus experience and support services shape students' long-term commitment. This study addresses this gap by exploring how student satisfaction, driven by practical and social aspects of their university experience, enhances their likelihood of recommending the institution and maintaining long-term engagement.

**Hypothesis 3:** Student satisfaction enhances their likelihood of recommending the institution and continuing engagement, leading to loyalty.

## 2.4 Student satisfaction as a mediator variable

Student satisfaction plays a critical mediating role in the relationship between push and pull factors and international student loyalty. Prior research has established that both push and pull factors contribute to students' decisions to study abroad (Almanwari *et al.*, 2024; Amaro *et al.*, 2019; Mucsi, 2021), but their impact on student loyalty is often mediated by satisfaction.

Push factors such as limited access to quality education, economic challenges, and political instability, compel students to seek higher education abroad (Chirkov *et al.*, 2007; Hailat *et al.*, 2022). When students have unmet expectations in their home country, they place higher expectations on their host institution. If these expectations are fulfilled or exceeded, their satisfaction increases, leading to greater loyalty (Mazzarol and Soutar, 2002; Negm, 2018). Conversely, dissatisfaction with their new academic environment may weaken their commitment to the institution.

Pull factors refer to the attractiveness of the host country and institution, including reputation, affordability, cultural environment, and career opportunities (Abubakar *et al.*, 2014; Mazzarol and Soutar, 2002; Thái, 2013). These factors not only influence students' decisions to study abroad but also shape their satisfaction levels once enrolled. A positive campus experience including tuition fees, access to facilities, support services, and social integration, enhances satisfaction, thereby strengthening student loyalty (Ahmad and Buchanan, 2017). However, some pull factors may also exert a direct effect on loyalty, as students may remain committed to an institution due to its prestige and long-term benefits, even if their satisfaction level is not optimal (Amaro *et al.*, 2019).

By integrating both push and pull factors into a mediational framework, this study addresses a key gap in the literature by analyzing how these factors shape student loyalty through satisfaction. While previous research has examined these factors independently, limited empirical evidence integrates them within a single mediational model.

**Hypothesis 4:** Push factors may influence loyalty through satisfaction.

**Hypothesis 5:** Pull factors may also directly and indirectly influence loyalty, mediated by satisfaction.

### 3 METHODOLOGY

#### 3.1 Sample size and data collection

The study aimed to investigate the impact of push and pull factors on international students' loyalty in Malaysian higher education, with a focus on the mediating role of satisfaction. To achieve this, a quantitative approach was adopted, utilizing a structured questionnaire to collect data from international students enrolled in undergraduate and graduate programs at Malaysian public universities. The target population comprised students from diverse nationalities, academic levels, and durations of residence in Malaysia, ensuring a representative sample of the international student community. A convenience sampling method was employed, and data were collected from 596 participants, a sample size determined by the requirements of structural equation modelling (SEM). SEM typically necessitates a minimum of five responses per observed variable, and with 61 observed variables across the constructs under study (push factors, pull factors, satisfaction, and loyalty) (O'Rourke and Hatcher, 1994), the final sample size of 596 exceeded this threshold, ensuring robust statistical analysis.

Data collection was conducted electronically via university portals and international student associations to maximize accessibility and reach, during October 16, 2024, to January 16, 2025. Prior to participation, informed consent was obtained, emphasizing the voluntary, anonymous, and confidential nature of the study. This approach aligned with ethical research standards and encouraged candid responses from participants.

#### 3.2 Instrument

The questionnaire was divided into two sections. The first section focused on demographics, capturing essential background information such as age, gender, nationality, current level of study (undergraduate or graduate), and duration of residence in Malaysia. These variables were included to contextualize the sample and explore potential variations in responses across different subgroups. For instance, understanding whether loyalty perceptions differed between undergraduate and graduate students or between students from different regions added depth to the analysis.

The second section measured the study's core constructs using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Push factors, which represent motivations driving students away from their home countries, were assessed through five dimensions adapted from

established frameworks. The institution dimension (3 items) evaluated home-country conditions such as political and economic stability, while availability (7 items) focused on limitations in career opportunities, educational infrastructure, and program diversity in students' home countries. Qualifications/competencies (5 items) explored perceptions of foreign qualifications as pathways to career advancement and migration, whereas economic affordability and support (3 items) measured motivations linked to cultural experiences and financial feasibility. Finally, the social dimension (5 items) captured familial encouragement and economic support for studying abroad.

Pull factors, which reflect Malaysia's attractiveness as a study destination, were organized into three dimensions. The first dimension, country image, social/cultural diversity, political stability, and safety (14 items), assessed Malaysia's reputation for educational quality, multicultural environment, safety, and political stability. The cost and education processing subscale (6 items) focused on affordability factors such as living expenses, tuition fees, and the efficiency of visa procedures. The third dimension, social and environmental factors (5 items), addressed post-graduation opportunities, social networks, and cultural familiarity, which are critical in shaping students' long-term engagement with Malaysia.

Satisfaction was operationalized through an 8-item scale that evaluated students' experiences with campus facilities, academic support systems, transportation accessibility, and social integration. This construct aimed to capture the extent to which students felt their academic and personal needs were met during their stay in Malaysia. Finally, loyalty was measured using 5 items that reflected students' intentions to continue their studies at the same institution, recommend it to others, or return to Malaysia for future academic pursuits. These items were designed to assess both institutional and national loyalty, providing insights into students' long-term commitment to Malaysia as an educational hub. The measurement instruments integrated into this survey derive from established scales in prior literature, including contributions by Bianchi (2013), Buddhichiwin (2013), Cheng *et al.*, (2013), Wu, (2014), and Teah (2019). Existing validated scales from these sources were prioritized for direct integration to ensure reliability, while maintaining conceptual clarity for hypothesis examination through measurable theoretical constructs, consistent with Malhotra (2019). Contextual modifications were implemented where necessary - notably, host nation descriptors were adapted to align with Malaysia's cultural and institutional environment.

To ensure the instrument's validity and reliability, the questionnaire underwent a rigorous pilot-testing phase with 60 respondents. This sample size exceeds the minimum threshold of 30-50 subjects recommended for psychometric evaluation (Johanson and Brooks,

2010) while aligning with the 10% proportionality guideline relative to the main study's projected sample size (Hertzog, 2008). The pilot version was administered exclusively in English to maintain linguistic consistency with the final instrument. Feedback was solicited from a small group of international students and academic experts, leading to minor revisions in phrasing and structure to enhance clarity and relevance. This iterative process strengthened the instrument's ability to capture the nuanced dynamics of student decision-making and loyalty. By integrating established theoretical frameworks with contextual refinements, the study aimed to provide a comprehensive understanding of the factors shaping international students' loyalty in Malaysian higher education.

### 3.3 Data screening and cleaning

The dataset was collected from 596 respondents. To ensure data quality and the reliability of responses, the data was assessed for inconsistencies. A total of 26 responses with missing values and 28 straight-line responses were identified and subsequently removed from the dataset.

Furthermore, an outlier analysis was conducted to detect and remove extreme values that could significantly skew the results. Outlier detection was performed using both univariate (z-score) and multivariate (Mahalanobis distance) analyses in the Statistical Package for the Social Sciences (SPSS). A z-score threshold of  $\pm 4$ , a commonly used rule of thumb, was applied to identify univariate outliers (Sarstedt *et al.*, 2022). Multivariate outliers were assessed using Mahalanobis distance, with critical values determined by the chi-square distribution at  $p < 0.001$  (Hair Jr. *et al.*, 2017). As a result, 30 responses were identified as multivariate outliers and subsequently removed from the dataset. After data cleaning, the final dataset for analysis consisted of 512 responses.

Next, a normality test was conducted in SPSS to assess whether the data followed a normal distribution. The assessment was based on the commonly accepted rule of thumb, which considers skewness and kurtosis values within the range of  $\pm 2$  and  $\pm 7$  as indicative of normality (Hair *et al.*, 2010). The results showed that skewness values ranged from -1.232 to 0.341, while kurtosis values ranged from -0.870 to 1.161, both of which fall within the commonly accepted thresholds for normality.

This ensures that the dataset is clean from endogeneity issue, the analysis use common method bias (CMB), as data were collected from a single source, potentially leading to inflated correlations between variables (Kock *et al.*, 2021). However, the variance explained by the first

factor in Harman's Single Factor Test was 43.53%, which is below the 50% threshold, suggesting that CMB is unlikely to be a significant issue. This indicates that multiple factors are influencing the data, and the relationships between variables are likely to reflect the true underlying constructs, supporting the validity of the results. With this confirmation, the dataset is deemed suitable for further analysis, and hypothesis testing can proceed.

### 3.4 Analysis statistic

After data screening and cleaning, this study employed Structural Equation Modeling (SEM) using the partial least squares (PLS) approach with SmartPLS software. This method SEM-PLS is suitable for testing hypotheses, particularly when analyzing relationships between relationships between exogenous and endogenous variables (independent and dependent variables) derived from scaled questionnaire data.

The use of SEM-PLS is particularly suitable for this study due to several reasons. Firstly, it is an effective approach for predicting key variables, making it ideal for studies that aim to explore complex relationships between constructs. Secondly, SEM-PLS is well-suited for exploratory research, especially when extending or testing existing theoretical frameworks in new contexts. Lastly, it is robust in situations where data distributional assumptions are not met, making it a valuable alternative to covariance-based SEM when dealing with small sample sizes, non-normal data, or formative measurement models. These advantages justify the selection of SmartPLS for hypothesis testing and model estimation in this study. However, if the data follows a normal distribution, it provides an advantage for SmartPLS as it allows for more stable and reliable parameter estimates, improved convergence, and enhanced model accuracy.

SEM-PLS can also be used to analyze second-order hierarchical latent variable models, as suggested by Becker *et al.* (2012). second-order models are typically estimated using either the repeated indicators approach and the two-stage approach. These methods allow researchers to model constructs at different levels, enabling a more structured and hierarchical understanding of relationships between latent variables. By incorporating second-order constructs, SEM-PLS enhances model parsimony while preserving the theoretical meaning of the constructs, making it an effective approach for studies involving complex measurement structures.

SmartPLS employs a two-step analysis approach, as recommended, which includes the measurement model and the structural model assessment. In the first step, the measurement

model is evaluated by examining outer loadings, internal consistency reliability, convergent validity, and discriminant validity. Internal consistency reliability is assessed using Cronbach's alpha (CA) and composite reliability (CR) to ensure the reliability of the constructs. The second step involves assessing the structural model, which includes evaluating R-squared ( $R^2$ ), Q-squared ( $Q^2$ ), standardized path coefficients ( $\beta$ ), and significance levels. The significance levels are used to determine the strength and direction of relationships between exogenous and endogenous variables, providing insights into the overall predictive power of the model.

## 4 RESULTS AND DISCUSSION

### 4.1 Demography respondent

Table 1 presents the demographic characteristics of the respondents in this study, which includes gender, age, marital status, level of study, year of study, and sources of funding. The demographic profile of the respondents reveals that the majority are young, single undergraduate students, with 54.9% male and 45.1% female participants. Most respondents (92.6%) fall within the 18-24 age group, aligning with the typical age range for undergraduate students, while a smaller proportion are 25 years and older. Regarding marital status, the majority (93.9%) are single, with only a small percentage reporting being married or divorced.

In terms of education level, the largest group consists of bachelor's degree students (88.9%), followed by those pursuing a master's (6.3%) and doctoral degrees (3.9%), with diploma students forming the smallest proportion. The majority are in their second year of study (47.46%), while first-year (24.22%) and third-year students (28.32%) make up the remainder.

Financially, most students rely on family support (67.38%) to fund their studies, while 23.83% are self-funded, and only 8.79% receive scholarships. This funding distribution suggests that financial assistance options are limited, making affordability a crucial factor in student satisfaction.

**Table 1**

*Demography Respondents*

	Information	Frequency	Percent
<b>Gender:</b>	Female	231	45.1
	Male	281	54.9
<b>Age:</b>	18-24 years old	474	92.6

25-30 years old	26	5.1
31 and above	12	2.3
<b>Marital Status:</b>		
Divorced	27	5.3
Single	481	93.9
Married	4	0.8
<b>Level of Study:</b>		
Diploma	5	1.0
Bachelor's degree	455	88.9
Master	32	6.3
Doctoral	20	3.9
<b>Year of Study:</b>		
First year	124	24.22
Second year	243	47.46
Third year	145	28.32
<b>Funding:</b>		
Family/ Self-funding	467	91.21
scholarship	45	8.79

This demographic distribution provides a relevant and informed sample for evaluating push and pull factors. The majority of respondents are in their second year of study, indicating that they have gained sufficient experience in their academic environment. Additionally, with most students relying on self-funding or family support (91.21%), their choice of university is largely independent and not tied to any specific sponsorship or financial obligation. This financial independence suggests that their university selection is based on personal preferences and perceived quality rather than external funding constraints.

#### 4.2 Measurement model

Table 2, Table 3, Table 4, and Table 5 present the measurement model assessment for the push factors, pull factor, satisfaction and loyalty to study abroad. The measurement model assessment was conducted by examining outer loadings, Cronbach's alpha (CA), composite reliability (CR), and average variance extracted (AVE).

The results indicate that all constructs demonstrate strong internal consistency, with CA and CR values exceeding the acceptable threshold of 0.70 (Hair Jr. *et al.*, 2020; Sarstedt *et al.*, 2021). Among push constructs, the social factor exhibits the highest reliability, while Economic Affordability and Support have the lowest, though still within an acceptable range. Among pull construct, Country Image, Social and Cultural Diversity, Political Stability, and Safety exhibit the highest reliability.

Convergent validity was established as most outer loadings exceeded the threshold of 0.70 (Henseler *et al.*, 2009). confirming that individual items significantly contribute to their respective constructs. However, certain items within the push factors, such as "Limited seats

are available for university admissions in the home country” and “Study abroad allows me to experience a new culture,” as well as the pull factor item “Family/friend living in Malaysia,” exhibited lower loadings. Despite this, they remain acceptable in exploratory research, as their Average Variance Extracted (AVE) values exceed the recommended threshold of 0.50 (Rich *et al.*, 2018). The AVE values further reinforce convergent validity, ensuring that all constructs meet the necessary criteria for model reliability.

**Table 2**

*Push Factors*

Construct/Item	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
<b>Institution:</b>		0.875	0.923	0.801
1. There is political stability in my home country.	0.898			
2. There is economic stability in my home country.	0.923			
3. Government policies and support to study abroad.	0.863			
<b>Availability:</b>		0.874	0.902	0.570
1. Less career opportunities in home country.	0.664			
2. Limited education infrastructure and facilities in home country	0.832			
3. Limited research funding in home country.	0.790			
4. Limited choice of program/ course in home country.	0.788			
5. Limited choice of institutions in home country.	0.792			
6. Limited high-quality higher education system in home country.	0.802			
7. Limited seats are available for university admissions in home country.	0.587			
<b>Qualifications/Competencies:</b>		0.846	0.891	0.621
1. Foreign qualifications are preferred by employers.	0.747			
2. Foreign qualifications have better quality.	0.804			
3. Foreign qualifications secure me a higher salary.	0.843			
4. Foreign qualifications make me more competent.	0.839			
5. Study abroad increases migration opportunity in the future.	0.697			
<b>Economic Affordability and Support:</b>		0.649	0.809	0.588
1. Study abroad allows me to experience new culture.	0.641			
2. Study abroad allows me to travel and have fun.	0.837			
3. Study abroad allows me to be more independent.	0.808			
<b>Social:</b>		0.937	0.952	0.799
1. Encouragement from parents and family members to study abroad.	0.867			
2. Others family member is currently studying abroad.	0.899			
3. Economic affordability and support from family to studying abroad.	0.924			
4. Family have special saving for studying abroad.	0.896			
5. More economical to studying abroad.	0.884			

**Table 3***Pull Factors*

Construct/Item	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
<b>Country Image, Social and Cultural Diversity, Political Stability and Safety:</b>		0.956	0.961	0.638
1. Malaysia is a popular study destination.	0.810			
2. Malaysia has high quality of higher education system.	0.841			
3. Malaysia has world class institutions.	0.823			
4. Malaysia qualifications are highly and internationally recognized.	0.788			
5. Malaysia is a peaceful and harmonious country.	0.850			
6. Malaysia has beautiful natural environment.	0.843			
7. Malaysia has low crime rate.	0.797			
8. Malaysia has good law and order.	0.809			
9. Malaysia is a multiracial country.	0.828			
10. Malaysia is culturally diverse.	0.842			
11. Malaysia is an Islamic country.	0.665			
12. Malaysia is religiously diverse.	0.728			
13. People in Malaysia understand my home country language.	0.730			
14. English is a common language in Malaysia.	0.807			
<b>Cost and Education Processing:</b>		0.897	0.921	0.662
1. Malaysia has low cost of living (food, transport, accommodation).	0.750			
2. Malaysia has stable currency exchange rate.	0.762			
3. Malaysia has fast and easy visa processing system.	0.807			
4. Malaysia visa processing fee is affordable.	0.892			
5. Malaysia education fees is affordable.	0.859			
6. Short-duration applications in education	0.803			
<b>Social and Environmental:</b>		0.818	0.871	0.579
1. Malaysia allows international students to stay and work after graduation.	0.787			
2. Family/ friend living in Malaysia.	0.581			
3. Recommended by others to study in Malaysia.	0.740			
4. Majority people in Malaysia understand home country language.	0.837			
5. Majority people in Malaysia have same culture with my home country.	0.831			

**Table 4***Satisfaction (Campus Experience and Support Services)*

Item	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
		0.943	0.952	0.715
1. The efforts in taking care of international students' welfare.	0.876			
2. The general support for international students.	0.891			
3. The learning support system for international students.	0.885			
4. The tuition fee charged.	0.817			
5. The location of the campus.	0.819			

6.	The access to public transportation.	0.813
7.	The access to campus facilities.	0.867
8.	The social experience with local students.	0.791

**Table 5***Loyalty*

Item	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
		0.875	0.909	0.668
1. I will continue to study until I complete this program.	0.756			
2. I might return to this education institution to pursue another degree	0.779			
3. I will recommend this education institution to others.	0.887			
4. I might return to Malaysia to pursue another degree.	0.795			
5. I will recommend Malaysia as study destination to others.	0.862			

Table 6 presented The Fornell-Larcker Criterion and the Heterotrait-Monotrait Ratio (HTMT) are two methods used to assess discriminant validity in Structural Equation Modeling (SEM-PLS). Discriminant validity ensures that constructs in the model are distinct and measure different theoretical concepts. In this table, the diagonal values in bold represent the square root of AVE, and for discriminant validity to be established, each construct should have a higher AVE square root than its correlations with other constructs (Fornell, & Larcker, 1981). For instance, the AVE square root for Availability is 0.755, which is greater than its correlations with all other constructs, such as Cost and Education Processing (0.259) and Country Image, Social and Cultural Diversity, Political Stability, and Safety (0.188).

The HTMT values, which are shown as off-diagonal values in italics, provide an additional assessment of discriminant validity by comparing the correlations between constructs. A commonly accepted threshold for HTMT is below 0.85 for a stricter assessment or below 0.90 for a more lenient criterion (Henseler, Ringle, & Sarstedt, 2015). In this table, most HTMT values remain within the acceptable range, with the correlation between Cost and Education Processing and Country Image, Social and Cultural Diversity, Political Stability, and Safety at 0.774, which is relatively high but still within an acceptable limit. Since the majority of the HTMT values do not exceed the critical threshold, discriminant validity is further supported.

**Table 6***Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT)*

Construct	1	2	3	4	5	6	7	8	9	10
<b>1</b>	<b>0.755</b>	0.259	0.188	0.382	0.176	0.208	0.575	0.332	0.225	0.183
<b>2</b>	0.249	<b>0.814</b>	0.774	0.544	0.480	0.689	0.509	0.799	0.792	0.535
<b>3</b>	0.177	0.723	<b>0.799</b>	0.515	0.663	0.748	0.500	0.734	0.709	0.775
<b>4</b>	0.285	0.419	0.427	<b>0.767</b>	0.418	0.446	0.577	0.661	0.514	0.457
<b>5</b>	0.032	0.429	0.606	0.328	<b>0.895</b>	0.480	0.347	0.42	0.439	0.654
<b>6</b>	0.195	0.619	0.694	0.349	0.424	<b>0.817</b>	0.456	0.706	0.814	0.500
<b>7</b>	0.508	0.442	0.454	0.430	0.301	0.394	<b>0.788</b>	0.546	0.46	0.516
<b>8</b>	0.272	0.701	0.686	0.486	0.377	0.615	0.457	<b>0.761</b>	0.747	0.478
<b>9</b>	0.216	0.731	0.680	0.410	0.402	0.746	0.413	0.668	<b>0.846</b>	0.423
<b>10</b>	0.114	0.494	0.733	0.375	0.593	0.462	0.462	0.438	0.404	<b>0.894</b>

Availability (1); Cost and Education Processing (2); Country Image, Social and Cultural Diversity, Political Stability and Safety (3); Economic Affordability and Support (4); Institution (5); Loyalty (6); Qualifications/Competencies (7); Social and Environmental (8); Satisfaction (9); Social (10), Bold is Fornell-Larcker Criterion; Italic is Heterotrait-Monotrait Ratio (HTMT)

## 5 STRUCTURAL MODEL

### 5.1 Assessment of structural model of second-order constructs

In this study, we define push factors as a second-order reflective construct comprising five first order reflective constructs: Institution, Availability, Qualifications/Competencies, Economic Affordability and Support and Social. Table 7 shows the degree of explained variance ( $R^2$ ) of relationship quality is reflected in its dimensions: Institution (0.420), Availability (0.271), Qualifications / Competencies (0.643), Economic Affordability and Support (0.383) and Social (0.661). While pull factor as a second-order reflective construct comprising three first order reflective constructs: Country Image, Social and Cultural Diversity, Political Stability and Safety, Cost and Education Processing as well as Social and Environmental. The  $R^2$  indicates Country Image, Social and Cultural Diversity, Political Stability and Safety (0.920), Cost and Education Processing (0.751) and Social and Environmental (0.671). According to Cohen (2013),  $R^2$  values of 0.26 and above are considered substantial. All  $Q^2$  considered predictive relevance which is value greater than 0 (Cohen, 1988). All the path coefficients from push and pull factors are greater than 0.10 and significant at  $p$ -value < 0.01.

## 5.2 Assessment structural model of hypothesis test

The  $R^2$  value, the statistical significance of the  $Q^2$  value, variance inflation factor (VIF) and path coefficient values was used to measure the structural model's overall explanatory capacity of constructs. Figure 2 illustrates the structural model's output. Table 8 shows that the  $R^2$  obtained for Satisfaction (Campus Experience and Support Services) is 0.578, which means that 57.8% of the variance in push and pull factor. While the  $R^2$  obtained for Loyalty is 0.618, which means that 61.8 of the variances in accountability is explained by push, pull factor and satisfaction. The results for  $Q^2$  for each construct are 0.384 (Satisfaction) and 0.384 (Loyalty). Both constructs yield  $Q^2$  more than 0, thus showing the model clear support for the model's predictive relevance (Hair Jr. *et al.*, 2014). VIF in the pull factors and push factors have a VIF value of 2.130, which falls within the acceptable range and indicates that multicollinearity is not a concern in the model ( $<5$ ) (Hair *et al.*, 2019).

**Table 7**

*R Square and Q Square*

Construct	R Square	Q Square
Satisfaction (Campus Experience and Support Services)	0.578	0.384
Loyalty	0.618	0.384

Furthermore, table 8, table 9 and Figure 2 show the path coefficients along with their t-values and p-values. The relationship between push factors and satisfaction (measured through campus experience and support services) has a path coefficient of -0.054, a t-statistic of 1.172, and a p-value of 0.242. This suggests that push factors have a weak and statistically insignificant effect on satisfaction, as the p-value exceeds the conventional significance threshold of 0.05. In contrast, the relationship between pull factors and satisfaction (campus experience and support services) is much stronger, with a path coefficient of 0.798, a t-statistic of 20.296, and a highly significant p-value of 0.000. This indicates that pull factors significantly and positively influence satisfaction.

Similarly, push factors do not exhibit a significant direct effect on student loyalty, as indicated by a path coefficient of 0.039, a t-statistic of 1.012, and a p-value of 0.312. The high p-value suggests that push factors do not directly drive loyalty. Conversely, pull factors demonstrate a strong and significant effect on loyalty, with a path coefficient of 0.345, a t-statistic of 6.248, and a p-value of 0.000, indicating that attractive factors such as institutional reputation, affordability, and cultural diversity contribute to student loyalty.

Additionally, satisfaction with campus experience and support services has a significant positive effect on student loyalty, as shown by a path coefficient of 0.464, a t-statistic of 8.771, and a p-value of 0.000. This highlights the crucial role of student satisfaction in fostering loyalty, suggesting that students who have positive experiences with campus facilities and support services are more likely to remain loyal to their institution.

**Table 8**

*First Order*

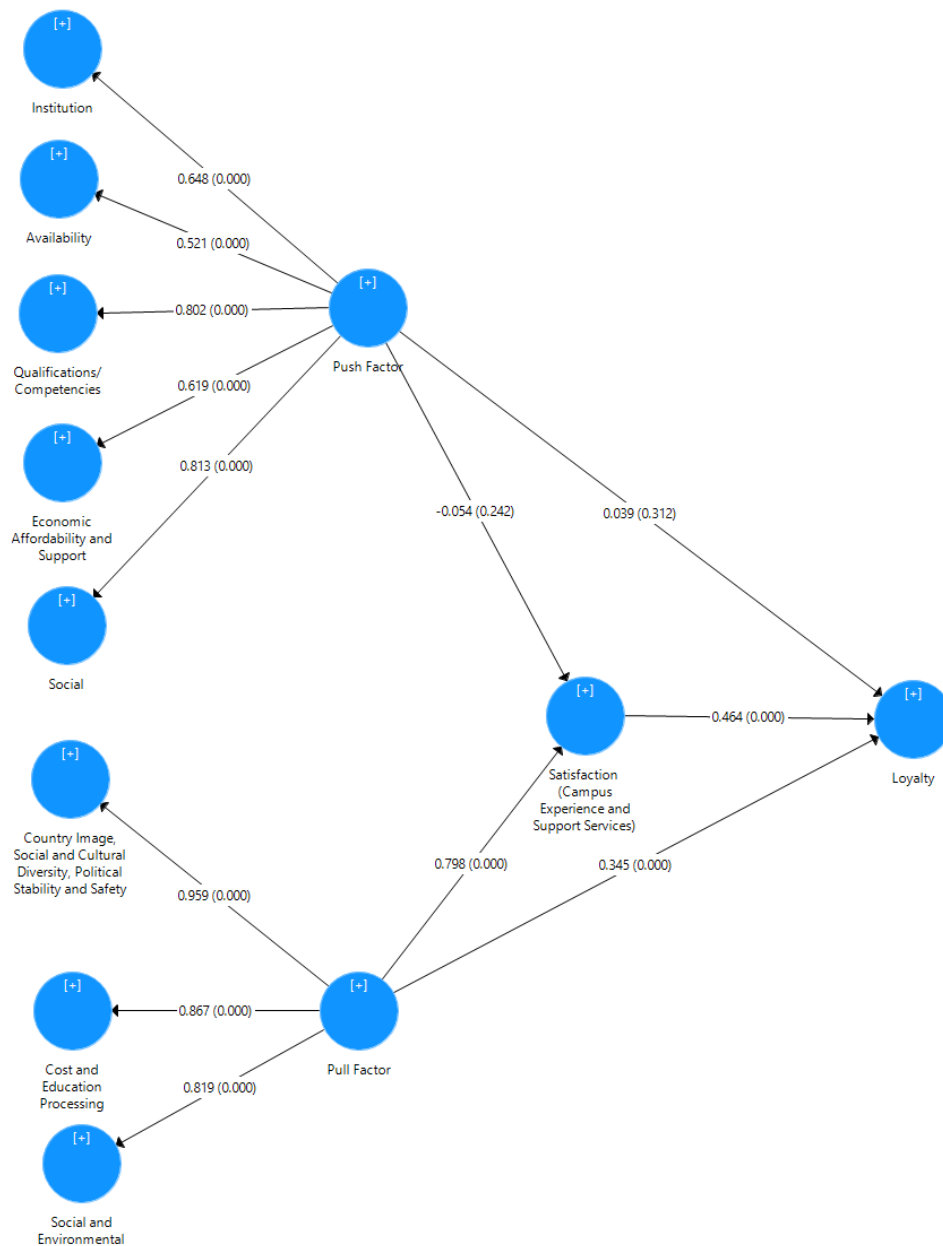
Relationship	Original Sample	Standard Deviation	T Statistics	P Values	R Square
Push Factor → Institution	0.648	0.039	16.574	0.000	0.420
Push Factor → Availability	0.521	0.050	10.454	0.000	0.271
Push Factor → Qualifications/Competencies	0.802	0.026	31.036	0.000	0.643
Push Factor → Economic Affordability and Support	0.619	0.033	18.869	0.000	0.383
Push Factor → Social	0.813	0.024	34.573	0.000	0.661
Pull Factor → Country Image, Social and Cultural Diversity, Political Stability and Safety	0.959	0.004	229.726	0.000	0.920
Pull Factor → Cost and Education Processing	0.867	0.012	70.317	0.000	0.751
Pull Factor → Social and Environmental	0.819	0.018	45.381	0.000	0.671

**Table 9**

*Second Order*

Relationship	Original Sample	Standard Deviation	T Statistics	P Values
Relation among Push Factor and Satisfaction (Campus Experience and Support Services)	-0.054	0.046	1.172	0.242
Relation among Pull Factor and Satisfaction (Campus Experience and Support Services)	0.798	0.039	20.296	0.000
Relation among Push Factor and Loyalty	0.039	0.038	1.012	0.312
Relation among Pull Factor and Loyalty	0.345	0.055	6.248	0.000
Relation among Satisfaction (Campus Experience and Support Services) and Loyalty	0.464	0.053	8.771	0.000

**Figure 2**  
*Output Model*



**5.3 Indirect effect**

Table 10 presents the indirect effects of push and pull factors on student loyalty through the mediating role of satisfaction. The indirect effect of push factors on loyalty through satisfaction has a path coefficient of -0.025, a t-statistic of 1.169, and a p-value of 0.243. This suggests that the mediating effect of satisfaction in the relationship between push factors and loyalty is weak and statistically insignificant ( $\geq 0.05$ ).

On the other hand, the indirect effect of pull factors on loyalty through satisfaction is much stronger, with a path coefficient of 0.371, a t-statistic of 7.956, and a p-value of 0.000. The highly significant p-value indicates that satisfaction serves as an effective mediator (Partial Mediation) in the relationship between pull factors and loyalty. This means that pull factors positively impact satisfaction, which in turn significantly enhances student loyalty.

**Table 10**

*Indirect Effect*

Relationship	Original Sample	Standard Deviation	T Statistics	P Values
Push Factor → Satisfaction → Loyalty	-0.025	0.022	1.169	0.243
Pull Factor → Satisfaction → Loyalty	0.371	0.047	7.956	0.000

## 6 DISCUSSION AND IMPLICATION

The findings of this study aligned with previous research highlights the importance of pull factors in shaping student satisfaction and loyalty. Several studies have emphasized that factors such as institutional reputation, safety, affordability, and cultural diversity play a significant role in students' decision-making processes when selecting a study destination (Maringe and Foskett, 2010). These studies support the argument that external, destination-related attributes are often more influential than home-country factors in determining student satisfaction and long-term commitment to an institution.

Similarly, our findings correspond with the work of Maringe (2006), Aminudin *et al.* (2023), and Negm (2018), who found that pull factors, particularly those related to the host country's economic opportunities and quality of education, significantly impact students' choice of institutions and their satisfaction levels. Additionally, research by Perkins and Neumayer (2013), Thái (2013), Hui (2014), and Mazzarol and Soutar (2002) underscores the importance of political stability and safety in attracting international students, which aligns with this study's findings that pull factors, including safety and country image, are strong predictors of satisfaction.

The lack of a significant direct effect of push factors on satisfaction and loyalty in this study is also consistent with prior research that suggests home-country factors, such as economic conditions or institutional limitations, primarily act as motivators for students to study abroad rather than as determinants of their overall experience and

satisfaction (Bodycott, 2009). This perspective is further supported by Maringe and Carter (2007), who argue that push factors influence the decision to leave but do not significantly impact satisfaction with the chosen institution.

Additionally, the mediating role of satisfaction in the relationship between pull factors and loyalty aligns with previous studies, such as those by Alves and Raposo (2007), which found that student satisfaction is a crucial determinant of loyalty. The findings reinforce the idea that students who experience a high level of satisfaction with campus facilities, support services, and academic quality are more likely to remain committed to their institution.

These findings have several important implications for higher education institutions seeking to attract and retain students. Given the significant impact of pull factors on both satisfaction and loyalty, universities should focus on strengthening their international reputation, affordability, and social and cultural inclusivity. Institutional branding, competitive tuition fees, and improved safety measures can further enhance their appeal to prospective students. Additionally, enhancing campus experiences and support services is crucial, as satisfaction plays a key role in fostering loyalty. Universities should invest in better academic and non-academic support, modern learning environments, and student engagement initiatives that create a sense of belonging.

Furthermore, the study suggests that universities should shift their focus away from addressing push factors and instead prioritize strengthening pull factors that make their institutions attractive to international students. Policies that facilitate smoother visa processing, work opportunities, and post-graduation employment prospects could further enhance students' commitment to their institution and host country.

## **7 CONCLUSIONS**

In conclusion, this study emphasizes the importance of pull factors in shaping student satisfaction and loyalty, with satisfaction acting as a key mediating factor. The findings highlight that external attributes such as a country's image, political stability, affordability, and cultural diversity significantly influence students' experiences and their long-term commitment to an institution. Conversely, push factors from students' home countries do not exhibit a meaningful effect on satisfaction or loyalty, suggesting that international students are primarily driven by the attractiveness of the host country rather

than constraints in their home country. Given these insights, universities aiming to improve student retention and institutional reputation should prioritize policies that enhance campus experience, affordability, cultural inclusivity, and global recognition.

However, this study is not without limitations. First, it focuses on a specific group of students, which may limit the generalizability of the findings to other student populations or education systems. Future research could extend the analysis to different geographic regions or academic disciplines to explore whether the impact of push and pull factors varies across contexts. Second, this study does not account for long-term post-graduation effects, such as career opportunities and professional networks, which may influence student loyalty beyond immediate academic experience. Examining the role of institutional engagement in career placement and alumni relations could provide deeper insights into factors sustaining long-term institutional loyalty. By addressing these limitations, future studies can provide a more comprehensive understanding of the factors influencing student satisfaction and loyalty, ultimately helping universities refine their strategies for attracting and retaining international students.

### DISCLOSURE STATEMENT

The authors report there are no competing interests to declare.

### REFERENCES

- Abubakar, A.M., Shneikat, B.H.T. and Oday, A. (2014), "Motivational factors for educational tourism: A case study in Northern Cyprus", *Tourism Management Perspectives*, Vol. 11, pp. 58–62, doi: <https://doi.org/10.1016/j.tmp.2014.04.002>.
- Ahmad, S.Z. and Buchanan, F.R. (2017), "Motivation factors in students decision to study at international branch campuses in Malaysia", *Studies in Higher Education*, Vol. 42 No. 4, pp. 651–668, doi: <https://doi.org/10.1080/03075079.2015.1067604>.
- Almanwari, H.S.A., Saad, N.H.M. and Zainal, S.R.M. (2024), "The influence of environment & location, personal motivation, and fee & price on satisfaction, attituding and behavioural loyalty among international students in Oman", *Journal of Open Innovation: Technology, Market, and Complexity*, Vol. 10 No. 2, pp. 1–15, doi: <https://doi.org/10.1016/j.joitmc.2024.100285>.
- Alves, H. and Raposo, M. (2007), "Conceptual model of student satisfaction in higher education", *Total Quality Management & Business Excellence*, Vol. 18 No. 5, pp. 571–588, doi: <https://doi.org/10.1080/14783360601074315>.
- Amaro, D.M., Marques, A.M.A. and Alves, H. (2019), "The impact of choice factors on

international students' loyalty mediated by satisfaction", *Int Rev Public Nonprofit Mark*, Vol. 16, pp. 211–233, doi: <https://doi.org/10.1007/s12208-019-00228-0>.

Aminudin, N., Aziz, S.A.A. and Jamal, S.A. (2023), "International students' intention to pursue postgraduate studies in Malaysia: The moderating effect of perceived overall tourism attractiveness", *Asian Journal of University Education*, Vol. 19 No. 2, pp. 257–269, doi: <https://doi.org/10.24191/ajue.v19i2.22236>.

Amzat, I.H., Ali, H.M., Ibrahim, M.B., Othman, A., Salleh, M.J. Bin and Najimdeen, A.H.A. (2023), "Internationalization of higher education, university quality service, and international students' loyalty in Malaysia", *Sage Open*, Vol. 13 No. 4, pp. 1–18, doi: <https://doi.org/10.1177/21582440231210498>.

Becker, J.-M., Klein, K. and Wetzels, M. (2012), "Hierarchical latent variable models in PLS-SEM: guidelines for using reflective-formative type models", *Long Range Planning*, Vol. 45 No. 5–6, pp. 359–394, doi: <https://doi.org/10.1016/j.lrp.2012.10.001>.

Bianchi, C. (2013), "Satisfiers and dissatisfiers for international students of higher education: An exploratory study in Australia", *Journal of Higher Education Policy and Management*, Vol. 35 No. 4, pp. 396–409, doi: <https://doi.org/10.1080/1360080X.2013.812057>.

Bodycott, P. (2009), "Choosing a higher education study abroad destination: What mainland Chinese parents and students rate as important", *Journal of Research in International Education*, Vol. 8 No. 3, pp. 349–373, doi: <https://doi.org/10.1177/1475240909345818>.

Buddhichiwin, P. (2013), *The Decision Making and Experiences of Thai Postgraduate Students in the UK: Implications for Marketing Strategies*, University of Exeter.

Cheng, M.Y., Mahmood, A. and Yeap, P.F. (2013), "Malaysia as a regional education hub: a demand- side analysis", *Journal of Higher Education Policy and Management*, Vol. 35 No. 5, pp. 523–536, doi: <https://doi.org/10.1080/1360080X.2013.825412>.

Chien, Y.-Y.G. (2015), "International postgraduate students in Britain: Reasons for studying abroad and issues related to adjustment", *International Journal of Technology and Inclusive Education*, Vol. 2 No. 1, pp. 724–735, doi: <https://doi.org/10.20533/ijtie.2047.0533.2015.0095>.

Chirkov, V., Vansteenkiste, M., Tao, R. and Lynch, M. (2007), "The role of self-determined motivation and goals for study abroad in the adaptation of international students", *International Journal of Intercultural Relations*, Vol. 31 No. 2, pp. 199–222, doi: <https://doi.org/10.1016/j.ijintrel.2006.03.002>.

Hailat, K.Q., Alsmadi, S., Nassar, M. and Chung, S.B. (2022), "An investigation of the push-pull factors influencing student selection of higher education: the case of Arabian Gulf students in the UK", *Journal of Public Affairs*, Vol. 22 No. 4, p. e2657, doi: <https://doi.org/10.1002/pa.2657>.

Hair, J.F., Black, W.C. and Babin, B.J. (2010), *Multivariate Data Analysis*, 7th ed., Pearson Education.

- Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019), "When to Use and How to Report The Results of PLS-SEM", *European Business Review*, Vol. 31 No. 1, pp. 2–24, doi: <https://doi.org/10.1108/EBR-11-2018-0203>.
- Hair Jr., J.F., Howard, M.C. and Nitzl, C. (2020), "Assessing measurement model quality in PLS-SEM using confirmatory composite analysis", *Journal of Business Research*, Vol. 109 No. 5–6, pp. 101–110, doi: <https://doi.org/10.1016/j.jbusres.2019.11.069>.
- Hair Jr., J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2017), *A Primer on Partial Least Squares Structural Equation Modeling*, Second., SAGE Publications.
- Hair Jr., J.F., Sarstedt, M., Hopkins, L. and Kuppelwieser, V.G. (2014), "Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research", *European Business Review*, Vol. 26 No. 2, pp. 106–121, doi: <https://doi.org/10.1108/EBR-10-2013-0128>.
- Henseler, J., Ringle, C.M. and Sinkovics, R.R. (2009), "The use of partial least squares path modeling in international marketing", *Advances in International Marketing*, Vol. 20, pp. 277–320, doi: [https://doi.org/10.1108/S1474-7979\(2009\)0000020014](https://doi.org/10.1108/S1474-7979(2009)0000020014).
- Hertzog, M.A. (2008), "Considerations in determining sample size for pilot studies", *Res Nurs Health*, Vol. 31 No. 2, pp. 180–191, doi: <https://doi.org/10.1002/nur.20247>.
- Hui, O.C. (2014), *Determinants of International Student's Satisfaction in UUM 2014*, Universiti Utara Malaysia.
- Johanson, G.A. and Brooks, G.P. (2010), "Initial scale development: Sample size for pilot studies", *Educational and Psychological Measurement*, Vol. 70 No. 3, pp. 394–400, doi: <https://doi.org/10.1177/0013164409355692>.
- Khalid, J., Nordin, N.M., Ali, A.J., Iftikhar, U. and Jamil, A. (2020), "Exploring Factors Influencing Student Study Abroad Choice of Destination in the Contemporary Globalized Era", *Akademika*, Vol. 90 No. Isu khas 2, pp. 17–28, doi: <https://doi.org/10.17576/akad-2020-90IK2-02>.
- Kock, F., Berbekova, A. and Assaf, A.G. (2021), "Understanding and managing the threat of common method bias: Detection, prevention and control", *Tourism Management*, Vol. 86, p. 104330, doi: <https://doi.org/10.1016/j.tourman.2021.104330>.
- Kuo, C.-Y. and Wong, J.-Y. (2019), "Exploring Chinese Students' Push and Pull Motivations in Influencing Life Satisfaction and General Well-being in Thailand", *Global J. Bus. Soc. Sci. Review*, Vol. 7 No. 3, pp. 178–184, doi: [https://doi.org/10.35609/gjbssr.2019.7.3\(2\)](https://doi.org/10.35609/gjbssr.2019.7.3(2)).
- Malhotra, N.K. (2019), *Marketing Research: An Applied Orientation*, Seventh., Pearson Education.
- Maringe, F. (2006), "University and course choice: Implications for positioning, recruitment and marketing", *International Journal of Educational Management*, Vol. 20 No. 6, pp. 466–479, doi: <https://doi.org/10.1108/09513540610683711>.
- Maringe, F. and Carter, S. (2007), "International students' motivations for studying in UK HE: Insights into the choice and decision making of African students", *International Journal of Educational Management*, Vol. 21 No. 6, pp. 459–475, doi: <https://doi.org/10.1108/09513540710780000>.

- Maringe, F. and Foskett, N. (2010), *Globalization and Internationalization in Higher Education: Theoretical, Strategic and Management Perspectives*, First., Bloomsbury Publishing.
- Mazzarol, T. and Soutar, G.N. (2002), “‘Push-pull’ factors influencing international student destination choice”, *International Journal of Educational Management*, Vol. 16 No. 2, pp. 82–90, doi: <https://doi.org/10.1108/09513540210418403>.
- Mucsi, A. (2021), *Study Abroad Motivations, Satisfaction and Loyalty: The Impact of Service Quality, Acculturation and International Student Characteristics in Higher Education*, Corvinus University of Budapest.
- Negm, E.M. (2018), “Investigating the power of social media in stimulating push and pull factors, encouraging students’ intents to study abroad”, *International Journal of Learning and Teaching*, Vol. 4 No. 3, pp. 216–223, doi: <https://doi.org/10.18178/ijlt.4.3.216-223>.
- Nurlida, I., Faridah, H., Nooraini, M.S. and Norzaidi, M.D. (2010), “Determining mediating effect of information satisfaction on international students’ college choice: empirical evidence in Malaysia’s university”, *International Journal of Scientific Research in Education*, Vol. 3 No. 1, pp. 51–63.
- O’Rourke, N. and Hatcher, L. (1994), *A Step-by-Step Approach to Using the SAS System for Factor Analysis and Structural Equation Modeling*, Second., SAS Institute.
- Oliver, R.L. (1980), “A cognitive model of the antecedents and consequences of satisfaction decisions”, *Journal of Marketing Research*, Vol. 17 No. 4, pp. 460–469, doi: <https://doi.org/10.1177/002224378001700405>.
- Padlee, S.F., Kamaruddin, A.R. and Baharun, R. (2010), “International students’ choice behavior for higher education at Malaysian private universities”, *International Journal of Marketing Studies*, Vol. 2 No. 2, pp. 202–211, doi: <https://doi.org/10.5539/ijms.v2n2p202>.
- Perkins, R. and Neumayer, E. (2013), “Geographies of educational mobilities: Exploring the uneven flows of international students”, *The Geographical Journal*, Vol. 180 No. 3, pp. 246–259, doi: <https://doi.org/10.1111/geoj.12045>.
- Rich, L.L., Rich, J. and Hair, J. (2018), “The influence of organizational culture on how we define and pursue goals: The value of regulatory focus”, *Journal of Organizational Effectiveness: People and Performance*, Vol. 5 No. 3, pp. 259–277, doi: <https://doi.org/10.1108/JOEPP-03-2018-0017>.
- Sarstedt, M., Hair, J.F., Pick, M., Liengard, B.D., Radomir, L. and Ringle, C.M. (2022), “Progress in partial least squares structural equation modeling use in marketing research in the last decade”, *Psychology & Marketing*, Vol. 39 No. 5, pp. 1035–1064, doi: <https://doi.org/10.1002/mar.21640>.
- Sarstedt, M., Ringle, C.M. and Hair, J.F. (2021), “Partial least squares structural equation modeling”, in Homburg, C., Klarmann, M. and Vomberg, A. (Eds.), *Handbook of Market Research*, Springer, doi: [https://doi.org/10.1007/978-3-319-05542-8\\_15-2](https://doi.org/10.1007/978-3-319-05542-8_15-2).
- Teah, C.W.S. (2019), *Investigating Key Factors Influencing International Students’ Choice of Private Higher Education Institutions ( HEIs ) in Malaysia*, Victoria

University Business School.

- Thái, T.T.H. (2013), “Examining push-pull factors in international student flows between Vietnam and Taiwan”, *Journal of Thu Dau Mot University*, Vol. 2 No. 9, pp. 47–58.
- Thoo, A.C., Lim, M.B.P., Huam, H.T. and Sulaiman, Z. (2022), “Increasing destination loyalty of international students towards Malaysian higher educational institutions”, *International Journal of Evaluation and Research in Education*, Vol. 11 No. 1, pp. 31–41, doi: <http://doi.org/10.11591/ijere.v11i1.21619>.
- Todea, S., Adriana, D., Pop, N.A. and Stamule, T. (2022), “Determinants of Student Loyalty in Higher Education: A Structural Equation Approach for the Bucharest University of Economic Studies, Romania”, *International Journal of Environmental Research and Public Health*, Vol. 19 No. 9, p. 5527, doi: <https://doi.org/10.3390/ijerph19095527>.
- Wu, Q. (2014), “Motivations and decision-making processes of Mainland Chinese students for undertaking master’s programs abroad”, *Journal of Studies in International Education*, Vol. 18 No. 5, pp. 426–444, doi: <https://doi.org/10.1177/1028315313519823>.

### Authors’ Contribution

All authors contributed equally to the development of this article.

### Data availability

All datasets relevant to this study’s findings are fully available within the article.

### How to cite this article (APA)

Chamhuri, N., Liu, J. J., Shukor, M. S., Wijijayanti, T., Salleh, N. H. M., & Jauhari, A. (2025). THE IMPACT OF PUSH AND PULL FACTORS ON INTERNATIONAL STUDENTS’ LOYALTY: EXAMINING THE MEDIATING ROLE OF SATISFACTION. *Veredas Do Direito*, 22(7), e223806. <https://doi.org/10.18623/rvd.v22.n7.3806>