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Toward Sustainable Overseas Mobility of Vietnamese Students: Understanding Determinants of Attitudinal and Behavioral Loyalty in Students of Higher Education

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Abstract: Research on internationalization in higher education has not shed enough light on how cross-border student mobility might contribute to the issue of sustainability. Given that a sustainable movement of loyal international students could help sustain the financial income, ranking, and prospective human resources of the host universities and countries, this study aims to investigate the mechanisms that lead to such loyalty. Specifically, this study adds to the literature by examining how switching cost interacts with disconfirmation and satisfaction in generating attitudinal and behavioral loyalty among international students. The study, surveying 410 Vietnamese students who are studying at either at the undergraduate or graduate level in 15 countries across the globe, first adopts confirmatory factor analysis (CFA) using software SAS 9.3 to evaluate if multiple fit indices, the standardized factor loading, and the average variance extracted scores are satisfactory. It then employs the Structural Equation Model (SEM) to test five hypotheses concerning the interaction between disconfirmation and satisfaction as well as among satisfaction, switching cost and behavioral/attitudinal loyalty. The results find that disconfirmation has both direct and indirect impact, while satisfaction only has a direct impact on attitudinal loyalty. Meanwhile, switching cost is found to have a direct impact on behavioral loyalty, but not on attitudinal loyalty. Based on these findings, the study proposes some theoretical and managerial implications for sustainability in general and sustainability of higher education in particular as well as direction for future studies.

Keywords: international student; higher education; sustainability; student loyalty; Vietnam

1. Introduction

The rise of globalization has resulted in increased cross-border student mobility, fueling the growth of higher education institutions in well-developed nations [1]. While globalization and internationalization are related, they are not the same thing [2]. In the context of studies on higher education and its sustainability, the concept of internationalization in education has been applied in a highly varied fashion throughout history, with its interpretations hinged on the rationales and incentives for such a strategy as well as on the political and economic circumstances in which the process takes place [3]. Yet, what remains rather constant is the role of international students in the

internationalization strategies of many higher education providers worldwide [4]. Indeed many studies have highlighted the importance of international students as it contributes to the sustainability of the host countries and universities in terms of finance [4–7], reputation [8], and human resources [9,10]. In particular, international students have become a significant source of income for the governments and universities of the host countries [4–6]. For example, at the end of the calendar year 2016, Australia had collected 21.96 billion Australian dollars from the contribution of international students, up 17.74% year-on-year [7]. All higher education institutions are also looking to recruit more international students given that several recognized university rankings such as The Times Higher Education (THE) or QS now include the proportion of international students as one of the indicators [8]. Additionally, international students can become skilled workers and help sustain the number of working-age adults in many developed but ageing nations [9,10]. According to Hanson and Slaughter [9], the U.S. offers annually about 20,000 H-1B visas, which subsequently serve as a precondition for green cards in the next step, specifically for postgraduate degree holders from U.S. institutions in the technology sector. Australia is also reportedly looking to international students as a primary source of highly skilled migrants to offset for the country's growing elderly population [10].

The extant literature on international students, such as their recruitment or adaptation, can be divided into three main topics. First, some studies have tried to investigate the push-pull factors driving the outflow of mobilized students from their homelands to overseas [11,12]. Second, other authors have focused on the adaptation process of international students into new countries and new academic environments [13,14]. Third, scholars have even begun to examine how loyalty—and to an extent its sustainability—is formed among international students and their host countries and universities [15,16].

Among the three above streamlines of research, the third one has received the least attention, leaving a gap of understanding on the specific factors that drive the loyalty of international students toward their incumbent host countries and universities. Thus, the objective of this study is to examine how switching cost interacts with disconfirmation and satisfaction in generating attitudinal and behavioral loyalty among international students, and thereby, contributing to the sustainability of the host countries and universities in terms of finance, ranking and human resources. There are three aspects the study will expand on to improve the current knowledge of international student loyalty:

- First, while previous studies on international student loyalty all regarded loyalty from one-dimensional perspective, i.e., loyalty as continued studying intention (behavioral loyalty) or loyalty as positive word of mouth (attitudinal loyalty), the approach of this study is to use dual-dimensional conceptualization of loyalty, i.e., considering loyalty from both attitudinal loyalty and behavioral loyalty.
- Second, this paper incorporates the established model of disconfirmation expectation [17] with the concept of switching cost [18–20] to explain the variation of international student loyalty. As Kim and Son [18] argued that the stability of relationship between customers (e.g., international students) and service providers (e.g., higher education institutions) is hard to be determined without the switching cost, taking into account this factor is necessary. Yet, this concept seems to be ignored in previous studies in international student loyalty.
- Finally, this study discusses how international student loyalty might contribute to the issue of sustainability of the host countries and universities in terms of finance, ranking and human resources.

This paper is organized as follows: the literature review section provides a thorough background to the conceptualization of international student loyalty from the dual-dimensional approach (i.e., attitudinal loyalty and behavioral loyalty) as well as its determinants, including disconfirmation, satisfaction, and switching cost. The next section then draws out the conceptual model and hypotheses, upon which the research methodology is built and the data collection and analysis carried out. The result section presents the empirical findings with interpretations that are consistent with the

proposed conceptual model. This paper ends with the conclusion, in which the limitations and suggestions for further studies are put forth.

2. Literature Review

2.1. Disconfirmation

The first determinant of international student loyalty is generally considered to be disconfirmation [21,22]. This construct originates from the expectation-disconfirmation theory that is widely used in the consumer behavior literature [23–25]. These authors argued that the expectation-disconfirmation model consists of four constructs: expectations, performance, disconfirmation, and satisfaction. If all other factors are equal, customers would be likely to have their positive disconfirmation when their product and/or service performance exceeds expectations or, their neutral disconfirmation if their product and/or service performance equals expectations. On the other hand, their negative disconfirmation should be likely to appear when customers have their product and/or service performance lacks of expectations [26]. Thus, disconfirmation is a difference between expectations and performance, including three scales such as positive, neutral or negative [26].

In the case of international students, their disconfirmation could be related to expectations and performances of tangible components of higher education services, namely lecture halls, student service centers, libraries, laboratories, computer rooms, etc., and intangible components of higher education services such as the availability of lecturers and tutors, their expertise, their teaching methods, their attitudes to students, etc. [21]. As explained by Lankton and McKnight [27] (p. 89), disconfirmation is “a subjective post-usage comparison that can result in one thinking performance was better, the same as, or worse than expected.” Noticeably, disconfirmation plays an independent role with a direct effect on satisfaction [28].

2.2. Satisfaction

Based on the expectation-disconfirmation model, Van Ryzin [25] continued to confirm that disconfirmation has a close relationship with satisfaction. Alternatively, a consumer who has a positive disconfirmation also gains a higher satisfaction. In contrast, he or she gathers a lower satisfaction in case of having a negative disconfirmation [25]. However, if there is a neutral disconfirmation, the customer also receives a neutral feeling of “neither satisfaction nor dissatisfaction” [26] (p. 435). Hence, satisfaction of customers, according to Chih et al. [28], is a pleasant feeling of comparing between their expectation and performance of a product or a service. Consumers who rely on their own experience in positive, neutral or negative disconfirmation stage also provide their own judgment of satisfaction [29]. For examples: international students in Australia pay attention to the satisfactory elements in higher education services, which consist of academic services, access in buildings and facilities, administrative services, augmented services, physical evidence, and courses offered [21] (p. 76). Likewise, international students in the U.S. attribute their satisfaction to: background and pre-college preparation; academic involvement; social involvement; and racial/ethnic diversity involvement [30] (p. 660). More simply, Asare-Nuamah [31] (p. 55) pointed out that the satisfactory dimensions of overseas students in India include the library, contact with teachers and administrative services, class sizes, course/subject content and reading materials. Similarly, in Malaysia, overseas students expressed their satisfaction with: university reputation/image, program quality, lecturers and teaching quality, student learning environment, effective use of technology, counselling and academic advising support, and social life (direct/indirect) facilities provided by the universities [32] (p. 502).

Consequently, international student satisfaction is related closely with international student loyalty because of their post-graduation activities: Alumni registrations, donations, recommendations of their ex-higher educational institutions for prospective students in their home countries, etc. [30].

2.3. Loyalty

As explained by Erjavec [33], the measurement of customer satisfaction itself is not effective if it does not take into account customer loyalty. This is because customer loyalty is expressed as a deep commitment of a customer with the current product or service he or she consumes as well as his or her intention to continue to buy it in the future [34]. Brown and Mazzarol [35] demonstrated that loyal overseas students are willing to: (i) Re-enroll in other courses of the higher education institutions that they have studied previously, despite the competitiveness from other universities; (ii) Enroll in other different delivery modes of courses (online courses, courses by distance learning, etc.); (iii) Refer other prospective students to the educational service quality of universities that they have already studied; and (iv) Provide student needs and expectations feedback to their previous higher education institutions. In studying this phenomenon, Gee et al. [36] suggested dividing the term into attitudinal loyalty and behavioral loyalty, attributing both the attitude and behavior of the customer over a long period of time to his or her loyalty [24].

For attitudinal loyalty, Jani and Han [37] and Kaur and Soch [38] described this in several ways, such as: The encouragement of customers to their relatives and friends to use their loyal products or services; the intention of customers to continue to use these products or services for a long period of time; the willingness of customers to pay a higher price for their loyal brand products or services than others, etc. In the case of international education, the attitudinal loyalty of international students could be a cognitive image of their desired universities, affective assessment of the establishment history and academic reputation of such higher education institutions, conative intention to enroll in their desired courses, etc. [39].

For behavioral loyalty, Oliver [24] suggested counting the final phase in the loyalty formation process: the action stage, i.e., customers act in their own specific ways to gain their desired product or service. Alternatively, in this phase, customers focus on their behavioral actions frequently [40]. Thus, international students might express their behavioral loyalty with practical actions such as their behavioral intentions to engage in their chosen universities (e.g., collecting course brochures and student information, etc.) and purchase behavior (e.g., official enrolling in their desired course(s) and doing fee payment for them, etc.) [39].

2.4. Switching Cost

Switching cost occurs when customers change a product or service provider to another and face significant costs of their switching. In other words, consumers incur a switching cost if he or she has already purchased a product or service and changed his or her mind in alternative products or services [19]. Generally, the costs of switching could be either monetary or non-monetary forms [20].

As specified by Burnham et al. [41], switching costs include three types: First, switching costs which relate to costs of time, effort, risks, evaluation, learning and set up are called procedural switching costs. Second, switching costs that involve costs of benefit and financial losses are considered financial switching costs. Finally, switching costs that are based on the costs of emotional and psychological discomfort can be seen as relational switching costs. By comparison, others also classified switching costs into psychological switching costs and economic switching costs [42] or learning costs, transaction costs and artificial costs [43].

Regarding the switching cost in higher education, Pham and Lai [44] (p. 3) initially confirmed that “higher education, especially international higher education, is an extended education service.” Thus, international higher education switching cost appears when international students have experienced a longer study period than usual as an extended education service. Therefore, the popular switching costs that international students have incurred might include the cost of learning, cost of finance, and cost of psychological discomfort in universities, etc. [42]. However, many overseas students naturally accept such switching costs and continue to study without changing their universities because of some reasons as: (i) They have studied in higher education institutions for several years and initially perceived the teaching methods of professors/lecturers and acquired the learning methods for

students effectively [45,46]; (ii) They have built some student networks with other students in the same or other institutions for academic and recreational purposes [47]; (iii) They have been familiar with the study environment and the student life in their current institutions [48,49]; (iv) They have created good relationships with their colleagues, landlords, housemates, part-time/casual job employers and work rosters, etc. for everyday study and work [50–52]; etc. Consequently, many international students practically have not wished to change their current study and living conditions as an intentional acceptance of their switching costs in international higher education [53].

2.5. Higher Education and Sustainability

Education in general and higher education in particular as well as their relationships with sustainability are not new research issues. However, within the extant literature, we might find different approaches to conceptualize and investigate the topic. Studies in the 1970s–1990s focused on examining the role of environmental education and its impact on sustainable development [54]. While there are still researchers looking at education from the lens of environment and sustainability in the decade of 2000s [55], this period witnessed a new streamline of other authors viewing education, higher education and sustainability from different perspectives such as sustainability and lifelong learning [56], sustainability and e-learning [57], and the education of sustainability [58].

The first decade of the twenty-first century marked an important milestone for the emergence of the topics education and sustainability to the main discourse, thanks to the UN's approval to include education as one of the Sustainable Development Goals (SDGs) [59]. In particular, the SDGs put inclusion and quality of education as well as lifelong learning at the center of sustainable development worldwide. Following these goals, several authors have investigated different options that education can contribute to sustainable development. For instance, Daniela et al. [60] inquired into “what extent and how technology-enhanced learning can effectively add to teaching and learning, and, consequently, to the imperative of quality education and sustainable growth and development” (p. 2).

Yet, there appears to be a dearth of research on the connection between international students and sustainability. To fill in this gap, this study argues that behavioral loyalty and attitudinal loyalty of international students are important antecedents of the sustainability of the host countries and universities. The reasons hinge on the peculiar status of these international students and the relationships they have with the host universities and countries. In terms of finance, international student loyalty is believed to make the income sources of higher education institutions more sustainable due to the increase in their self-financing ability [4–7] as well as the decrease in the dependence of the State or Federal budget supports [61]. In terms of educational reputation, thanks to the behavioral loyalty of international students, their host countries and universities could continue to attract more overseas students, at both the national and institutional levels. The higher proportion of international students could help the host countries and universities sustain their positions in higher education rankings such the U21 Ranking of National Higher Education Systems and the THE [8]. Moreover, in terms of human resources value, the behavioral loyalty of international students would play an important role in determining their tendency to stay back or leave the host countries after graduation. For students who have obtained high degrees and skills valuable to the host countries, their employments could add to the overall sustainability of the local workforce. Last, while the attitudinal loyalty of international students may not contribute directly to the sustainability of their host environment, it may have indirect effect. Studies have shown that mouth referral, often by international alumni, is one of the most productive forms of promotion for studying abroad [12,62]. Students who exhibit attitudinal loyalty would be more likely to persuade their friends, colleagues, or family members to study at their incumbent universities. For example, a survey among 139 overseas students in Brisbane, Australia found that two thirds of the respondents had influenced other persons from their home country to study in Australia [63]. This would no doubt contribute indirectly to the financial and reputational sustainability of said schools and countries. Along this line, it is highly

possible that attitudinally loyal students would keep in touch with their former professors for further collaboration or return to the host countries for work at a different time.

The research topic at hand is also relevant to reaching the United Nations' SDGs, particularly the SDG4 on Education [64]. University leaders and policymakers who are aware of the attitudinal and behavioral loyalty of international students, in this context, from Vietnam, can encourage this group to get more engaged with the educational experiences. The students will be driven to accumulate the "technical and vocational skills, for employment, decent jobs and entrepreneurship" (target 4.4 of the SDG 4) and the more "knowledge and skills needed to promote sustainable development" (target 4.7 of the SDG 4) [64]. At the same time, thanks to their higher degrees and advanced skills, international students will gain increased mobility in their employment options, with some returning to their home countries to work. This move would nonetheless contribute to the fulfillment of target 4.C of the SDG 4 ("supply of qualified teachers"). In this sense, the sustainability aspect is ensured regardless of the extent to which international students are loyal to their host environments.

Given these reasons, the next section will delve into the framework and analysis to explicate the drivers of international student loyalty.

3. Conceptual Framework

Within the scope of this study, the conceptual framework will cover four factors, namely disconfirmation, satisfaction, loyalty, and switching cost. After the analysis, the study will tie the discussion to the overall issue of sustainability, as explained above.

Previous studies have investigated that disconfirmation affects satisfaction significantly. For instance, Schwarz and Zhu [65] demonstrated that the expectation-disconfirmation theory [29] influences satisfaction in the international student context, because exceeding international students' expectations will lead to the appearance of their disconfirmation positively and increase their satisfaction. Similarly, Huang [66] suggested that international students might heighten their satisfaction by improving their learning performances or decreasing their expectations. Thus, the first hypothesis is as follow:

Hypothesis 1 (H1). *Disconfirmation influences satisfaction positively.*

Next, Naderian and Baharun [67] argued that many previous studies confirm the positive relationships between satisfaction and attitudinal and behavioral loyalty under various product and service settings, including international higher education service. For instance, Yu and Kim [61] specifically pointed out that international student satisfaction in higher education institution services impacts on international student loyalty positively. Similarly, Pham and Lai [44] (p. 3) also argued that satisfaction of overseas students is a "direct determinant of loyalty" in the international higher education setting "as an extended duration service." Hence, the second and third hypotheses of international student loyalty are proposed as follows:

Hypothesis 2 (H2). *Satisfaction influences attitudinal loyalty positively.*

Hypothesis 3 (H3). *Satisfaction influences behavioral loyalty positively.*

Many previous studies attempted to verify the relationship between switching cost and customer loyalty in various contexts with some similarities and differences in their findings and discussions [68–70]. For example, Yen [70] explained that in some U.S. e-commerce markets, switching cost influenced customer loyalty positively. By comparison, Ram and Wu [69] argued that switching cost by itself had no influence with customer loyalty in Chinese mobile phone market and required further research to clarify the role of switching cost in other settings. Additionally, Ghazali et al. [68] examined that the relationship between customer satisfaction and customer loyalty in e-retailing and country clubbing was not moderated significantly by switching cost.

As a consequence, many studies have further investigated the relationship between switching cost and customer loyalty by dividing loyalty into attitudinal loyalty and behavioral loyalty [71]. For instance, Nettet and Helgesen [71] discovered that in the airport service setting, switching cost influence customer loyalty positively, but weakly. By contrast, Cheng [72] confirmed that switching cost influence customer loyalty significantly in both attitudinal and behavioral loyalty aspects. For example, Ali and Ahmed [53] debated that switching cost has been a vital antecedent of higher education student loyalty. Unfortunately, so far switching cost has rarely used to justify the international student loyalty in the higher education context. Meanwhile, the influence of switching cost on the international student loyalty significantly in both attitudinal and behavioral loyalty might create competitions intensely among higher education institutions [53]. These arguments above suggest the fourth and fifth hypotheses:

Hypothesis 4 (H4). *Switching cost influences attitudinal loyalty positively.*

Hypothesis 5 (H5). *Switching cost influences behavioral loyalty positively.*

With That Said, the Conceptual Framework for This Study Is Visualized in Figure 1.

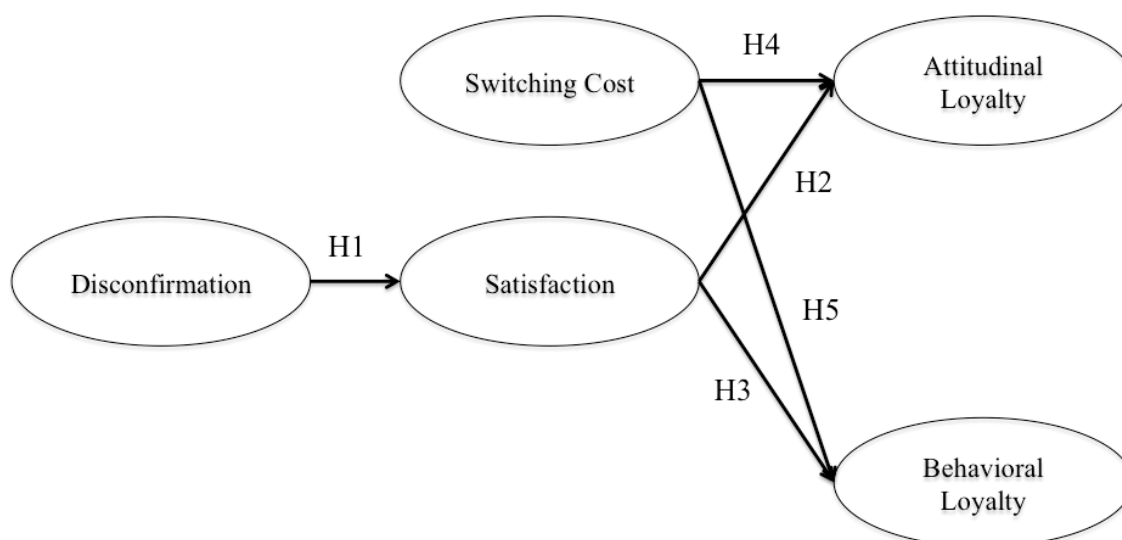


Figure 1. Conceptual model.

4. Materials and Method

4.1. Survey Questionnaire Development

The survey questionnaire is composed of two parts: The first aims to collect the demographic and basic profiles of respondents, including: gender, age, the current host country, current study program, major, the language of instruction in the current study program. The results are presented in Table 1. In the second part, the study addresses questions to measure latent variables introduced in the conceptual model. All questions are adopted from previous highly cited measurements. On the basis of feedback: (i) from two experts, one in education and another in marketing fields; and (ii) a pilot test with 50 respondents, in which some necessary adjustments were made in terms of terminology in order to fit with international higher education settings and some items were eliminated due to their low factor loadings (see Table 2).

Common method variance might be a concern for studies using survey data from same-respondent replies, such as in the study by Huang [66]. Following the suggestion of Chang et al. [73], both Likert scales 5 and 7 were used and some questionnaire items are in reversed-code. These steps aimed to prevent the problem of common method variance.

Table 1. Demographic and basic information of respondents.

Characteristics	Respondents	
	Frequency (n = 410)	%
Gender		
Male	177	43
Female	233	57
Age		
Under 20	18	4
From 20 to 25	146	36
From 25 to 30	146	36
From 30 to 35	69	17
From 35 to 40	23	6
Over 40	8	2
Current host country		
Major English-speaking countries (Australia, Canada, New Zealand, UK, US)	208	50.7
Other countries	202	49.3
Current study program		
Bachelor	81	20
Master and PhD	314	77
Others	15	4
Major		
Science, technology, engineering, and math	111	27
Economic, business, management, education, pedagogy, foreign language, linguistic, social science, and humanities	271	66
Others	28	7
The language of instruction in the current study program		
English	372	91
Others	38	9

Table 2. Results of multiple fit indices.

Index	Result	Acceptable Level
Chi-square	70.49	-
Degree of freedom	55	-
Chi-square/ Degree of freedom	1.28	<5
GFI	0.97	>0.9
AGFI	0.96	>0.8
NFI	0.96	>0.9
RMSEA	0.03	<0.08
BCFI	0.99	>0.9

4.2. Data Collection

Vietnamese overseas students are selected as participants of this study. Vietnam is one of the most dynamic sources of international students, according to Choudaha and Kono [74]. Available data in 2016 showed that there were around 130,000 Vietnamese students, both self-funded and scholarship-received, studying in foreign countries [75]. Traditionally, Vietnamese students went to higher developed countries, such as the U.S., the UK, Australia, Japan, and continental European countries seeking for foreign degrees. More recently, neighboring countries such as Mainland China, South Korea or Taiwan ROC have been increasingly selected by Vietnamese students and parents thanks to their geographical proximity and cheaper costs of tuition fees and living expenses. Meanwhile, former Soviet bloc countries such as Russia or Poland are still receiving a stable number of Vietnamese students thanks to their former ideological affinity.

The study chose two Facebook-based groups gathering Vietnamese overseas students to collect data. A personal solicitation message was sent to 2000 members randomly picked from these two groups from December 2016 to April 2017. First, the reader was asked whether he or she has the plan to undertake further study, including bachelor, master, Ph.D., or post-doc when he or she finishes his or her current program. The reader would only be asked to step into the main questionnaires if his or her answer is “yes”.

Eventually, 410 respondents out of 2000 (or 20.5%) from more than 15 countries across the globe had been validated for the use of data estimation. For 1590 others, 1539 did not answer our questionnaires and 51 others answered but were eliminated due to their incomplete answers. Table 1 represents the demographic and basics profiles of our 410 respondents whose answers were used for data estimation.

5. Results

5.1. Measurement Validation

For measurement validation, confirmatory factor analysis (CFA) was firstly adopted, using software SAS 9.3. In Table 2, we showcase the results of our multiple fit indices, including chi-square, degree of freedom, goodness of fit (GFI), adjusted goodness of fit (AGFI), normed fit index (NFI), root mean square error of approximation (RMSEA), and Bentler comparative fit index (BCFI). As indicated in Table 2, all multiple fit indices obtained from our estimation are satisfactory.

The items' standardized factor loading, construct reliability (CR), and average variance extracted (AVE) scores are selected to access whether convergent validity is problematic for this study. As indicated in Table 3, all factor loadings for individual items are higher than 0.7 (except SAT3, SWC1 and ALO1's are higher than 0.5). According to Evanschitzky et al. [76], minimum acceptable level of standardized factor loading is 0.5 and the preferred level is 0.7. As indicated in Table 4, all CRs and AVEs are satisfactory, as their scores are all higher than cutoff points (0.7 and 0.5, respectively). Finally, since our estimation indicated that AVE scores are higher, the correlations between the latent variables, discriminant validity are demonstrated as not a problem for our study.

Table 3. Results of factor loading for Confirmatory Factor Analysis.

Items	Factor Loading	t Statistic
Disconfirmation: Likert scale 7 [77]		
DIS1: Your experience with studying at the current university and living in the current host country is worse than what you expected before (<i>reverse code</i>)	0.88	36.78 ***
DIS2: The education provided by your current university and the living conditions and environments provided by your current host country is better than what you expected before	0.88	36.51 ***
Satisfaction: Likert scale 7 [77]		
Overall, how do you feel about the service provided to you by your current university and the life in the current host country?		
SAT1: Satisfactory	0.86	38.80 ***
SAT2: Pleased	0.83	36.35 ***
SAT3: Contented	0.67	21.17 ***
Switching Cost: Likert scale 5 [78]		
SWC1: Generally speaking, the costs in time, money, effort, and grief to switch from your current host country to another country for further study would be high	0.57	4.42 ***
SWC2: Overall, you would spend a lot and lose a lot if you switched from current host country to another country for further study	0.78	4.54 ***

Table 3. Cont.

Items	Factor Loading	t Statistic
Behavioral Loyalty: Likert scale 7 [79]		
Rate the PROBABILITY that you would MOVE to another foreign country for further study (<i>reverse code</i>)		
BLO1: Likely	0.83	36.74 ***
BLO2: Probable	0.92	46.47 ***
BLO3: Certain	0.73	26.95 ***
Attitudinal Loyalty: Likert scale 5 [80]		
ALO1: You will say positive things about universities in the current host country to other people	0.69	22.63 ***
ALO2: You will recommend the current host country to someone seeking your advice for education service	0.90	43.61 ***
ALO3: You will encourage your friends/relatives to study in the current host country	0.80	32.17 ***

Note: *** $p < 0.001$.

Table 4. Convergent and Discriminant Validity.

Construct	CR	AVE	Factor Correlation				
			DIS	SAT	SWC	BLO	ALO
DIS	0.87	0.77	1				
SAT	0.83	0.63	0.61	1			
SWC	0.63	0.47	0.02	0.02	1		
BLO	0.87	0.70	0.51	0.02	0.19	1	
ALO	0.84	0.64	0.05	0.49	0.01	0.02	1

Note: DIS: Disconfirmation; SAT: Satisfaction; SWC: Switching Cost; BLO: Behavioral Loyalty; ALO: Attitudinal Loyalty.

5.2. Model Testing

The Structural Equation Model (SEM) was employed to test the proposed hypotheses in this study. Table 5 and Figure 2 present the results of our data estimation. Specifically, all multiple fit indices, including chi-square, degree of freedom, goodness of fit (GFI), AGFI, NFI, comparative fit index (CFI), RMSEA, and BCFI, as shown in Table 5, demonstrate the appropriateness between the conceptual model and the empirical data. Regarding path analyses, among the five hypothetical paths, three were supported with empirical results while two were not. Therefore, H1 (Disconfirmation–Satisfaction), H2 (Satisfaction–Attitudinal Loyalty) and H5 (Switching Cost–Behavioral Loyalty) were confirmed and H3 (Satisfaction–Behavioral Loyalty) and 4 (Switching Cost–Attitudinal Loyalty) were not. In addition, based on modification index results, a new path from Disconfirmation to Attitudinal Loyalty was revealed. In terms of variance explained, 31.41% variance of Attitudinal Loyalty is explained by our model, the corresponding figures for Behavioral Loyalty and Satisfaction are 4.1% and 37.33%, respectively.

Table 5. Results of Structural Equation Model.

	β Coefficient	<i>t</i> Value	Hypothesis
Dependent variable: Satisfaction			
Disconfirmation	0.61	15.56 ***	H1 supported
R ²	37.33%		
Dependent variable: Behavioral Loyalty			
Switching Cost	0.19	2.82 **	H5 supported
Satisfaction	0.07	1.00	H3 not supported
R ²	4.10%		
Dependent variable: Attitudinal Loyalty			
Switching Cost	0.00	0.01	H4 not Supported
Satisfaction	0.28	4.30 ***	H2 supported
Disconfirmation	0.34	5.25 ***	Newly revealed path
R ²	31.41%		

Chi-square = 70.92; degree of freedom = 52; goodness of fit (GFI) = 0.97; adjusted goodness of fit (AGFI) = 0.95; normed fit index (NFI) = 0.97; root mean square error of approximation (RMSEA) = 0.03; and Bentler comparative fit index (BCFI) = 0.99. ** $p < 0.01$; *** $p < 0.001$.

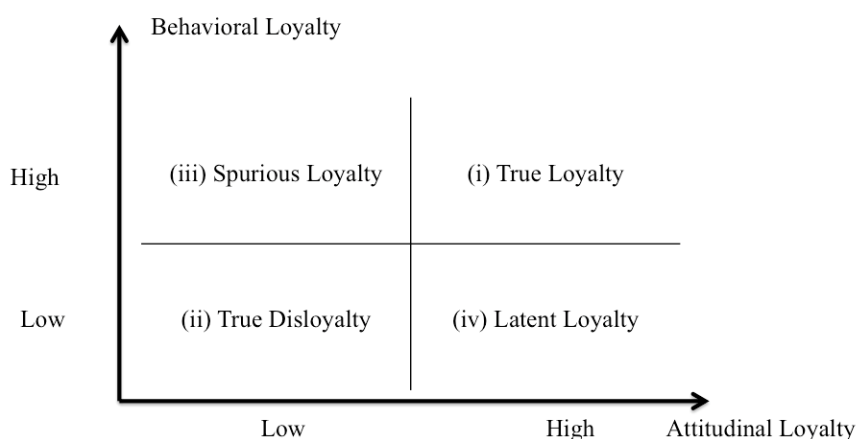


Figure 2. Four clusters of international student loyalty. Source: The authors adopted and adjusted from [81].

The confirmation of H1 (Disconfirmation–Satisfaction) and H2 (Disconfirmation–Attitudinal Loyalty) is in line with several previous studies, which also employed the disconfirmation–expectancy model in different settings e.g., tourism [82], haircut service [83]. In higher education, particularly, Casidy and Wymer [84] surveyed 948 Australian students and also reached a similar result regarding the path from Satisfaction to Attitudinal Loyalty with this study. Thus, the more international students perceive their actual educational performance to have exceeded their expectations, the more satisfied they are, and thus, the more loyal they become regarding attitudinal dimension. In the example of Australian students, one suggestion is the host universities should have a better understanding of the students’ expectations prior to enrollment, upon which they could build programs to meet the students’ demand and satisfaction.

However, our empirical results indicated that there is no significant impact of Satisfaction on Behavioral Loyalty (H3). There are two possible ways to explain this finding. First, as Mittal and Kamakura [85]’s finding shows, the satisfaction–behavioral loyalty might not be a linear relationship, but non-linear. This does mean that Satisfaction still influences positively on Behavioral Loyalty but not in a linear pattern. Given that the method used in this study (SEM) is only workable with linear estimation, rejection of H3 is plausible. Second, an alternative explanation for this finding stems from a proposition of Oliver [24]. In his conceptual work, Oliver [24] asserted that high satisfaction would not universally and necessarily translates into loyalty. Among identified reasons that obstruct loyalty, change in need is a common reason. For instance, as a child grows up, his or her old toys

may not match with the new demand for the new development's pace. In this circumstance, although he or she may still like the toy (high attitudinal loyalty), he or she eventually does not play with it (low behavioral loyalty). In the same vein with this above situation, it is likely that an international student, after finishing his or her first degree overseas, still has high attitudinal loyalty toward his or her current host country; but as he or she changes the need and does not want to stay in the same country for further study anymore. In other words, in both two above cases, as a consumer (a child consuming toy or a student consuming overseas education) has matured; his or her high satisfaction does not automatically translate into behavioral loyalty (re-play the toy or stay in the same country for further study). A similar phenomenon was also observed within working organization. Mosadeghrad et al. [86], in a study with 629 employees of a hospital in Iran revealed that there is a positive association between the degree of staff's satisfaction and their turnover intention. This may be due to a need for change in which the more satisfied an employee is, the more likely he or she changes his/her need, and thus the more likely, he or she wants to quit his/her incumbent job.

Regarding the association between Disconfirmation and Attitudinal Loyalty, as mentioned earlier, we have revealed a new direct path starting from Disconfirmation and ending at Attitudinal Loyalty. This finding, indeed, is consistent with the certain existing literature in relationship marketing in general. For instance, Martínez Caro and Martínez García [87] also found a significant direct impact of disconfirmation of loyalty in sports event context. Considering this empirical result, it is suggested that within the international higher education context, not only does disconfirmation play a role of the indirect antecedent of loyalty but also a direct one.

As discussed earlier, given the special attributes of higher education service, switching cost should be considered as a key determinant of student loyalty. In addition, our data estimation demonstrated partly the hypothesized role of switching cost. In particular, switching cost was found to have a significant impact on behavioral loyalty, but not attitudinal loyalty.

6. Discussion and Conclusions

This study contributes to the scant literature on the loyalty of international students and its antecedents. Specifically, this study incorporates components of the disconfirmation-expectation model with switching cost into a framework to predict and explain two sub-dimensions of international student loyalty: attitudinal loyalty and behavioral loyalty of international students. The implications of the two components of loyalty are clear: a sustainable movement of loyal international students would contribute to the sustainability of the host countries and universities in terms of finance, ranking and human resources.

6.1. Theoretical Implications

The findings, evoked from a survey conducted with 410 Vietnamese overseas students from over 15 countries across the world, demonstrated that components of the disconfirmation-expectation model, including disconfirmation and satisfaction, are significant determinants of attitudinal loyalty, but not behavioral loyalty. Specifically, our empirical results showed that disconfirmation has both direct and indirect (via satisfaction) impact while satisfaction has only direct impact on attitudinal loyalty. Meanwhile, switching cost is found to have a direct impact on behavioral loyalty, but not on attitudinal loyalty. These findings imply that the mechanisms leading to two sub-dimensions of loyalty (i.e., attitudinal and behavioral) might be different. In other words, an international student having high behavioral loyalty toward his or her incumbent host country does not necessarily have high attitudinal loyalty, and vice-versa. On the basis of this assertion and on the basis of Backman and Crompton [81]'s typology, it would be possible to divide international students into four clusters with different loyal behaviors. These are (i) True Loyalty: (international) students demonstrate their high degree of behavioral loyalty, as well as psychological bonding (attitudinal loyalty) toward their current host countries and universities (ii) True Disloyalty: (international students) showcase contrast, features to the high loyalty; (iii) Spurious Loyalty: students have the intention to continue to study at

the current host countries but with low level of attachment (low attitudinal loyalty) and (iv) Latent Loyalty: individuals prefer to stick with their current host countries but have the intention to switch due to certain situational factors.

6.2. Managerial Implications

The findings revealed that attitudinal loyalty and behavioral loyalty are formulated in two different ways. As discussed in the literature review, attitudinal loyalty and behavioral loyalty of international students are direct and indirect drivers of sustainability in terms of finance, ranking and human resources for host countries and universities, the results confirm again that there are two strategies to enhance sustainability, one pertaining to the attitudinal component of loyalty and the other to the behavioral counterpart.

First, to enhance attitudinal loyalty, and hence, contribute indirectly to sustainability, policymakers and university leaders might focus on the effort to enhance disconfirmation and subsequently the satisfaction of international students. To do so, policymakers and universities' leaders might focus on evaluating the gaps between the actual performance and prior expectations (i.e., two constituents that make disconfirmation) of their international students. One step to take is surveying the expectations and desires of newly enrolled international students, upon which a periodic evaluation of their actual perception should be carried out. On a practical note, from an entrepreneurial perspective, universities should stay abreast of the current movements in taking advantage of algorithms and the increasingly networked world [88] to effectively implement such surveys among international students. Based on this comparison, responsive actions and adjustments might follow up, helping to build students' attitudinal loyalty over time.

Second, to enhance behavioral loyalty, and thus, result in direct sustainability, policymakers and university leaders are advised to put efforts on enhancing the switching cost. Providers in other service settings have employed several actions to enhance the switching cost. For instance, in the airline service, airline firms often use membership cards as the measurement to raise the switching cost among customers, thus enhancing behavioral loyalty [89]. In the same vein, higher education providers might introduce similar membership programs for their international students, such as those who undertake their second degrees at the incumbent universities would get tuition reduction or waiver.

Here, given that the study uses Vietnam-specific data, it is important to note that international institutions seeking to recruit more Vietnamese students and retain their loyalty should also look into their cultural dimensions [90,91] as well as behaviors [92]. In seeking to raise the loyalty of overseas Vietnamese students, international admissions offices and university leaders should understand the complexity of their socioeconomic background as well as the cultural-religious influences. For instance, to enhance the overall loyalty of Vietnamese students and encourage them to contribute more to the overseas environment, the host institutions should support the building of a tight Vietnamese community locally, through which the students themselves will gain trust and satisfaction in the universities. The behavioral loyalty of Vietnamese students at international schools will result in widespread exchange of information and word-of-mouth referrals about their higher education experience among their existing network of friends and family members. The host universities and countries will therefore benefit directly as their reputation is enhanced.

6.3. Limitations and Recommendations for Future Research

Future studies might have several areas for research based on limitations of this study. First, although the participants in this study cover over 15 countries across the world, they are somewhat biased in terms of the educational level. As indicated in Table 1, 77% of participants in this study are at the graduate level. This figure is, indeed, reasonable as the two Facebook groups that the survey was delivered gathered mostly graduate students. However, this might not reflect the actual profile of the Vietnamese overseas students' population. Other authors might overcome this limitation by selecting sample balancing between undergraduate and graduate students.

Second, although the idea that classifies international students into four clusters i.e., true loyalty, true disloyalty, latent loyalty, and spurious loyalty as explained in the theoretical implication, is interesting, this study could not identify attributes and behaviors pertaining to each cluster. It is because the antecedents included in this study are not enough to explain all the variations of the two exogenous variables i.e., attitudinal loyalty and behavioral loyalty. Future studies might build a more comprehensive model than this one, and thus, attributes of international students corresponding with each above cluster might be identified. Several implications in terms of theory and practice could be drawn once these attributes are outlined, with no doubt.

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