

FACTORS INFLUENCING STUDENTS' DECISIONS IN CHOOSING PRIVATE INSTITUTIONS OF HIGHER EDUCATION IN MALAYSIA: A STRUCTURAL EQUATION MODELLING APPROACH

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ABSTRACT

There are almost 500 institutions of private higher education currently in operation in Malaysia, these include colleges, university colleges and universities. These institutions are helpful because they fill the gap caused by limited seating for potential students in government institutions of higher learning. A total sample of 373 students comprising students from secondary schools was used in this study. These students were in the British equivalent O and A levels of education. A questionnaire containing 46 statements was distributed randomly to the respondents during a motivation seminar at their respective schools. The data analysis was conducted using SPSS and AMOS software programme packages for Windows. Factor analysis was performed to extract and decide on the number of factors underlying the measured variables of interest. Structural Equation Modelling (SEM) was then used to examine the variables and the fitness of the proposed model. The results indicate a substantial positive effect of perception and promotion on the students' choice of private institutions for higher education. The results also reveal a significant positive effect of perception on influence and promotion on influence. Therefore, the findings of this study have a substantial effect on private institutions of higher education.

Keywords: private institutions, higher learning, Structural Equation Modelling (SEM), Malaysia

INTRODUCTION

Over the last decade, there have been dramatic changes in the higher education landscape in Malaysia. In the 1970s, there were only a few private institutions of education in Malaysia, and those were limited to providing a secondary level of education such as the O- and A-level of education, including accounting professional examinations. However, in the mid-1980s, private institutions of

higher learning began to emerge. These colleges, as well as some new colleges, began to offer diploma and degree courses with foreign universities using a franchising model. Because the objectives of Private Institutions of Higher Education (PIHE) are largely focused on profit, they are certainly different from the objectives of the PIHE. Therefore, the public is constantly comparing the quality of education between both sectors of higher education providers.

The students of PIHEs are those who were previously enrolled in the O- and A-levels of education. These students usually avoid choosing private institutions to further their studies. Their first choice is the Public Institutions of Higher Education, and their last resort is the PIHE. Alternatively, some students would rather discontinue their education and begin looking for jobs. Thus, some of the PIHE have low student enrolments. Moreover, the Ministry of Higher Education constantly reports the suspension of licences to operate by certain institutions because of low performance and other related reasons.

Indeed, there are many successful PIHE, but there are also many PIHE struggling to survive (Hay & Fourie, 2002). The government encourages establishing PIHEs to ease the burden of overcrowding at public universities, to pass the education responsibility to the private sector, and to create more entrepreneurs, particularly among the bumiputras (Malay race and the indigenous people of Southeast Asia, particularly in Malaysia). To assist the growth of PIHE through student enrolment, the government provides education loans. Although these loans were first available to students of public institutions, the government has now included students of PIHEs as well.

With this scenario in higher education in Malaysia, it is pertinent to explore the foundation of decision-making by the students as they choose a place to study, and it is also important to understand their perceptions of PIHE.

LITERATURE REVIEW

A plethora of studies have been documented in the literature that focuses on education, and numerous factors have been identified in these studies. For example, the cost of education (Xiaoping, 2002), class size and achievements (Toth & Montagna, 2002), ethnicity and achievements (Fazia, 2001; Tomlinson, 1991; Gibson & Bhachu, 1988), attitudes towards extracurricular activity in an institution of higher learning (Belikova, 2002), and perceptions concerning the quality of education programmes (Zain & Nik-Yacob, 1995) are reported to influence the opinions of students as they select an institution. Some research studies have focused on the early process of choice formation, as well as the social, economic and cultural factors that shape educational aspirations (e.g.,

Yusof, Ahmad, Tajudin, & Ravindran, 2008). These studies have centred principally on the decision of whether to attend a university rather than on the specific reason students select a preferred institution or course (Williams, Clancy, Batter, & Girling-Butcher, 1980; 1993; Carpenter & Western, 1984; 1989; Hayden & Carpenter, 1990; Baldwin, Eley, Hor, Doyle, Kermond, Pope, Cameron, & McClelland, 1991; Department of Employment, Education and Training (DEET), 1993; 1994; Australian National Opinion Polls (ANOP), 1994; McInnis & James, 1995; Harvey-Beavis & Elsworth, 1998; Yusof et al., 2008; Paul, 2009; Wagner & Fard, 2009).

Xiaoping (2002) raised a concern regarding the rise of tuition fees charged by most colleges and universities within and around Beijing. Obviously, the views from parents and academicians oppose one another. Parents fear that the rising education costs will deter higher education opportunities for their children, whereas the academicians support the increase in tuition fees because they often benefit from these increases indirectly through higher salaries. Yusof et al. (2008) emphasised that parents of prospective students consider financial assistance to students to be an important factor that influences them towards a particular institution. Similar to Xiaoping (2002), Yusof et al. (2008) also found that cost of tuition is a moderately important factor considered by parents in selecting a particular institution for their child. Supporting these findings, Joseph and Joseph (1998, 2000) and Wagner and Fard (2009) noted that the cost of education, value of education and content and structure or degrees offered are the three most important factors that influence the choice of the students. Yusof et al. (2008) explicated that the availability of the required program is the top attribute in choosing a particular institution for higher education, which shows that the respondents were well-informed about their institution of choice and had previously decided on the programmes for which they wanted to apply or be admitted. The identical findings are also found in the literature from Baharun (2002) in which he concluded that students' selection of a university is mainly determined by types of academic programmes available, quality of education, administration standards, faculty qualification, and convenient and accessible location.

In addition, there are several related studies reporting that, in Asian culture, the influence of family and friends plays a significant role on students' choice of higher education (see Joseph & Joseph, 1998, 2000; Pimpa, 2004; Chen & Zimitat, 2006; Yusof et al., 2008; Wagner & Fard, 2009). Recommendations from friends and relatives are considered to be "push" factors, as cited by McMahon (1992) and Mazzarol and Soutar (2002), in motivating a destination choice for students from Taiwan, India, China and Indonesia. Moreover, Pimpa (2004) highlighted family as the most influential factor for Thai students' choice of international education, whereas Chen and Zimitat (2006) noted the influence

of family and friends of Taiwanese students as a major factor to study abroad. Broader research indicates that individuals will select a particular higher education institution if the benefits of attending outweigh the perceived benefits of attending other higher education institutions or non-college alternatives (Hossler, 1985; Wagner & Fard, 2009).

All over the world, higher education is highly sought-after because of its promise of better future prospects for degree holders. Among Asians, women's roles in the past have been confined to the home; thus, higher education was perceived as unnecessary. However, this phenomenon has changed lately, even in some Western Muslim cultures. Ahmad (2001) explored the motivational factors and influences for entering higher education among Muslim women in Britain. The study highlighted the existence of dual objectives by the women, that is, suitable husbands and/or stable employment. With higher education, these women become more suitable for their potential educated husbands while also ensuring themselves a better opportunity for stable employment (Ahmad, 2001). Another motivating factor arising from the study is the opportunity to be away from home for a legitimate reason. Finally, Tomlinson (1991) found that ethnic minority students in England unanimously viewed higher education and careers as an absolute necessity (Gibson & Bhachu, 1988).

The higher education landscape in Malaysia has gone through substantial changes over the years. A number of factors are responsible for the high demand for higher education in Malaysia that operates both at personal and societal levels. At the personal level, higher education is considered to be the key to obtaining jobs that pay good salaries, confer social status and prestige, and provide avenues for social mobility. At the societal level, the Malaysian government is using higher education programmes to restructure Malaysian society to have a more indigenous population pursuing higher education, thus, enabling them to improve their livelihood later in life (Ghazali & Kassim, 2003; Yusof et al., 2008).

With an increase in the number of private colleges in Malaysia conducting the collaboration or twinning degree programmes with foreign universities, higher education in Malaysia has become a lucrative business. This occurrence raises a question regarding the quality of the programmes offered. Zain and Nik-Yacob (1995) conducted a preliminary study of the perceptions of Malaysian university academicians on the foreign twinning programmes in Business and Engineering. Their results found that academicians were concerned about the quality of education offered at these private colleges because the colleges' main motive was thought to be profit. However, establishing the National Accreditation Board (LAN) has assisted in creating a positive atmosphere for the growth of private higher learning institutions, therefore, producing positive perceptions from the Malaysian academia and the public community. Moreover, the LAN has been

upgraded and renamed the Malaysian Quality and Assurance Board (MQA), an entity that regulates all academic programmes offered by higher learning institutions.

From this review of the literature on higher education, it is evident that PIHEs are struggling to cope with stiff competition because of the enhanced quality of education offered by the public sector (Hay & Fourie, 2002). Moreover, PIHEs not only have to meet the requirements set by the Malaysian government, but they also have to face inevitable competition in the education industry. Furthermore, these problems also force parents and students to think carefully before choosing an institution for higher education. Based on the above-discussed issues, the present study attempts to seek answers to the following questions:

1. What is the relationship between perception and students' choice to further their education?
2. What is the relationship between promotion and students' choice to further their education?
3. What is the impact of perception on influence and promotion on influence?
4. What is the impact of influence on students' choice of study?

The proposed framework of this research is shown in Figure 1. The framework shows the hypothesised relationships among different variables, namely, perception, promotion, influence, and choice of study. Based on the review of the extant literature, this study examines the following research hypotheses:

- H1: Perception has a positive impact on the choice of study.
- H2: Perception has a positive impact on influence.
- H3: Promotion has a positive impact on the choice of study.
- H4: Promotion has a positive impact on influence.
- H5: Influence has a positive impact on the choice of study.

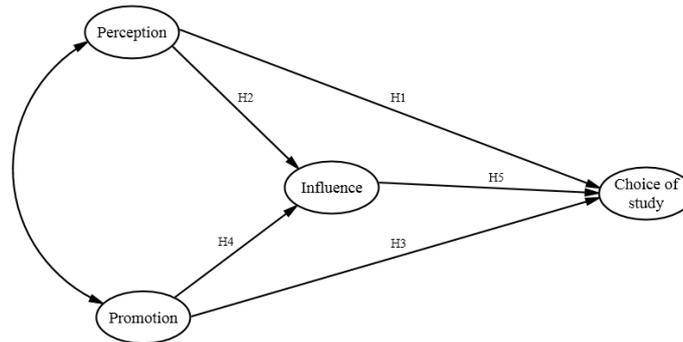


Figure 1. Proposed conceptual model

RESEARCH METHODOLOGY

Research Design

The research endeavoured to develop a generic model that can be used by the PIHE. After reviewing the literature, hypotheses were summarised into an integrated model (see Figure 1) whose validity was tested by gathering data from secondary students. Based on the proposed model, this study investigated:

1. The impact of perception on students' choice of study
2. The impact of promotion on students' choice of study
3. The impact of influence on students' choice of study

Data collection

A self-administered questionnaire was designed and tested among students of the secondary level of education around the Hulu Langat, Selangor areas to gauge their understanding and the relevancy of the measures. Prior to administering the questionnaire, three focus group discussions were conducted to determine the general dimensions of the students' perceptions of institutions of higher learning and the choice to further their studies. The questionnaire consisted of four sections, and each of these section contained questions to reflect different parts of the study. Statements that covered topics such as location, accreditations/ recognition by government, costs of study, academicians, facilities, and language of instruction were also included in the survey instrument. All the statements in the first four sections of the questionnaire sought responses on a scale of 1 to 6 in which "1" represented "Strongly Disagree" and "6" represented "Strongly Agree".

The questionnaire was distributed randomly to students who participated in the seminars conducted by the authors on motivation and opportunities for higher education. Thus, it was a self-administered approach of questionnaire responding. The students comprised those in Forms 4, 5 and 6 of the selected schools in the states of Kelantan, Terengganu, Kedah and Klang Valley. Of the 416 questionnaires distributed, 43 were rejected because of lack of response. Thus, the study sample comprised 373 students.

Of the total respondents, 65.4% were females, which is the major phenomenon in Malaysian education in which females are more interested in furthering their education than males. Regarding race, 68.4% were Malays, 22.8% were Chinese, and 6.7% were Indians. Although the study sample generally represents the population, the Malay sample is a little higher than the population proportion because most Malays inhabit the rural or small town areas where a major portion of the sample also resides. Moreover, this research attempts to capture more respondents from the pre-university population because most educational programmes of the PIHE are franchises from the public universities.

ANALYSIS AND RESULTS

First, the psychometric properties of the questionnaire were assessed by the calculating Cronbach's alpha reliability coefficient and a item-to-total correlation. According to Sekaran (2003), to ensure the stability and consistency of the research instrument, reliability is necessary. Therefore, it was imperative to conduct the reliability test before proceeding with further analyses. Cronbach's alpha value ranges from 0 to 1 in which a value closer to 1 indicates greater stability and consistency; however, for basic research, the threshold value of 0.60 was set by the researchers (see Nunnally, 1978). Table 1 shows the result of Cronbach's alpha for the instrument used in the current study in which the value of alpha (0.881) indicates acceptable consistency and stability of the instrument.

Table 1
Reliability statistics of the questionnaire

Cronbach's alpha	Cronbach's alpha based on standardised items	No. of items
0.881	0.883	32

Second, the researchers performed an exploratory factor analysis with Varimax rotation to examine whether items for a construct share a single underlying factor (i.e., are unidimensional). Therefore, EFA was employed on all the items of the questionnaire to determine the possible underlying factors. During EFA, all the

items were deleted that did not satisfy the criteria of above 0.5 loading and below 0.35 cross-loading (Hair, Black, Babin, & Anderson, 2010).

Table 2
Results of factor analysis

Items (Variables)	Component			
	Factor 1 Perception	Factor 2 Promotion	Factor 3 Choice of study	Factor 4 Influence
V16_1	.835			
V9_1	.826			
V4_1	.813			
V5_1	.616			
V40_1		.852		
V41_1		.834		
V42_1		.686		
V45_1		.605		
V47_1			.803	
V48_1			.790	
V54_1			.672	
V30_1			.641	
V38_1				.815
V44_1				.768
V3_1				.738
Initial eigenvalues	3.916	2.104	1.684	1.540
% of variance	17.345	16.008	15.147	13.129
Cumulative %	17.345	33.354	48.501	61.630

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.762, which indicated that the present data were suitable for principle component analysis. Similarly, Bartlett's Test of Sphericity was significant at $p < 0.001$, which indicated sufficient correlation between the variables. The results of the EFA indicated a clean four-factor structure using the criteria of an eigenvalue greater than 1. The extracted factors accounted for 61.63% of the total variance. All factor loadings were generally high, and the lowest loading was 0.605. The resulting factor loadings are shown in Table 2 with those less than 0.5 suppressed. All items were loaded onto the expected factors, which aligns with how they were originally designed. The factor loadings were all higher than 0.5 on its own factor; therefore, each item loaded higher on its associated construct

than on any other construct. This finding supported the discriminant validity of the measurement.

Subsequently, the reliability tests were conducted for all the items that formed each factor using Cronbach's alpha, as suggested by other scholars (Byrne, 2010; Hair et al., 2010; Kline, 2011; Pallant, 2007). The research revealed that Cronbach's coefficient alpha ranged from 0.708 to 0.804, which indicated good subscale reliability and internal consistency of the items (see Table 3).

Table 3
Reliability coefficient of the extracted factors

Factor	Number of cases	Number of items	Cronbach's alpha
Perception	373	4	0.804
Promotion	373	4	0.762
Influence	373	3	0.708
Choice of study	373	4	0.738

Next, a two-phase modelling procedure was adopted because it is considered one of the best practices in the use of SEM. For this procedure, the measurement model is specified and fitted before doing the equivalent for a full-fledged structural model. The main reason for utilising two-phase modelling was the ease and accuracy of fitting the structural model (Byrne, 2010; Hair et al., 2010).

AMOS software was used to perform Confirmatory Factor Analysis (CFA) on all the measuring items retained by EFA. The measurement model was assessed based on the fit measures recommended by different scholars (Byrne, 2010; Hair et al., 2010; Kline, 2011). These scholars recommended reporting the chi-square (χ^2) value and the associated degrees of freedom (*df*), along with at least one incremental index and one absolute index. Thus, reporting the χ^2 value, degrees of freedom, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) provided sufficient unique information to evaluate the model (Hair et al., 2010).

In the present research, the measurement model was evaluated by chi-square (χ^2), the comparative fit index (CFI), the goodness of fit index (GFI), and the root mean square error of approximation (RMSEA). However, given that the χ^2 is highly susceptible to sample size, this study used a normed chi-square (χ^2/df), as recommended by Byrne (2010) and Hair et al. (2010). The threshold values for all these fit indices were considered while evaluating the measurement model. For example, cut-off values were > 0.90 for CFI, > 0.90 for GFI, < 0.08 for

RMSEA, and < 5 for χ^2/df . Figure 2 represents the measurement model of all the constructs with their subsequent items retained by EFA.

A review of the measurement model shows that there are no offending estimates and that the results of the fit indices also support the proposed model. With a normed chi-square (χ^2/df) value of 2.642 ($\chi^2 = 221.910$, $df = 84$), which is within the maximum point of 5.0, the measurement model is attested to be fit. Moreover, the baseline fit indices are also greater than the 0.90 cut-off point, i.e., CFI = 0.918 and GFI = 0.929, which indicates a good fit of the measurement model. Finally, RMSEA value of 0.066 is clearly below the cut-off value of 0.08, which also indicates a good fit of the measurement model.

After achieving the good fit of the measurement model, the next step was to test the hypothesised causal relationships among the constructs of the model. This was completed through structural equation modelling using AMOS software. The maximum likelihood estimates (MLE) method was used after the constructs satisfied the criterion of multivariate normality (Bagozzi & Yi, 1998). Therefore, for all the constructs, tests of normality, namely, skewness, kurtosis and Mahalanobis distance (D^2) statistics were conducted. These did not indicate a departure from normality. Thus, as normality was confirmed for all the constructs, the researchers proceeded to use the MLE method to estimate the model.

The baseline structural model is depicted in Figure 3. The model was assessed based on the following indices: the chi-square test, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) per the suggestions of many scholars (Byrne, 2010; Hair et al., 2010; Kline, 2011). In addition, the path coefficients were also assessed both for statistical significance ($p < 0.05$) and practical significance ($\beta > 0.20$). The results of this structural model yielded acceptably high goodness-of-fit indices. This indicated that the hypothesised model fits the observed data well. The normed chi-square value (CMIN/df) for the current hypothesised model was 2.642, which is well below the value of 5.0, which is often indicated as the benchmark in SEM literature. Similarly, regarding other goodness-of-fit indices, CFI resulted in an acceptable value of 0.918, whereas RMSEA yielded a value of 0.066, which is also below the threshold value of 0.08. All of these values indicated a good fit of the hypothesised model.

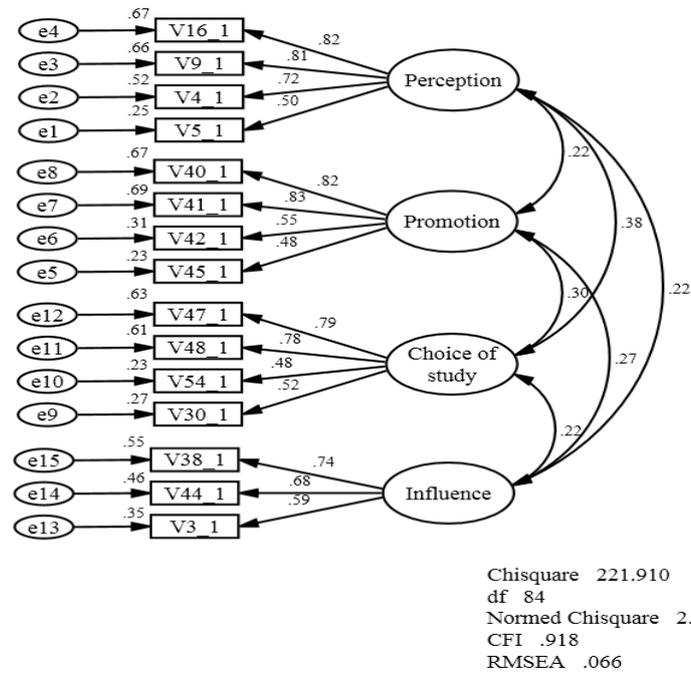


Figure 2. Confirmatory Factor Analysis

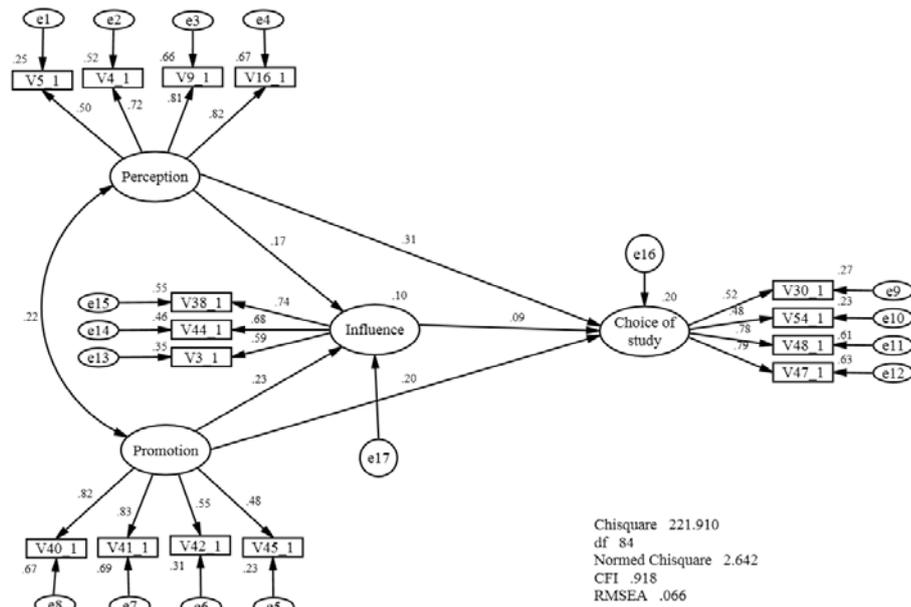


Figure 3. Baseline structural model

Moreover, the statistical significance of the paths at $p < 0.05$ and the practical significance at standardised $\beta > 0.2$ were also considered. Out of the total five structural paths, four resulted in being statistically significant. A more detailed analysis of the results and measures for the model fit are reported in Table 4. Because there is no definitive standard, a variety of indices are provided along with suggested guidelines.

Table 4
Estimates of the hypothesised model

Structural path	Hypothesised relationship	Std. reg. weight	S. E.	C. R.	P
Influence ← Promotion	H4 ^s	.232	.078	3.151	.002
Influence ← Perception	H2 ^s	.171	.096	2.450	.014
Choice of study ← Perception	H1 ^s	.310	.084	4.142	***
Choice of study ← Promotion	H3 ^s	.205	.061	2.937	.003
Choice of study ← Influence	H5 ^{ns}	.093	.057	1.334	.182

Statistic	Suggested	Obtained
Chi-square significance	≥ 0.05	0.000
Normed chi-square (CMIN/df)	≤ 5.00	2.642
Comparative fit index (CFI)	≥ 0.90	0.918
Goodness-of-fit index (GFI)	≥ 0.90	0.929
Root mean error square of approximation (RMSEA)	≤ 0.08	0.066

s = supported, ns = not supported

Based on the results of the hypothesised model, the structural path between perception and the choice of study showed a significant result. The results revealed that standardised regression weight = 0.310, standard error = 0.84, critical ratio = 4.142, and level of significance = 0.001, which supported the structural path. As was expected, perception resulted in a positive direction and was statistically significant, which confirmed the positive impact of perception on the choice of study, therefore, supporting H1 of the study. Similarly, H2 (i.e., perception has a positive impact on influence) was statistically significant with the standardised estimate of 0.171 at $p < 0.05$ level supporting this hypothesis. Furthermore, it was hypothesised that promotion had a positive impact on the choice of study (H3). The results also emerged with the standardised estimate of 0.205 at $p < 0.01$ level supporting this hypothesis. Moreover, H4 (i.e., promotion has a positive impact on influence) was also supported based on the following results: standardised regression weight = 0.232, standard error = 0.78, critical ratio = 3.151, and significance level = 0.002. Finally, one hypothesis (H5) was

not statistically significant, that is, standardised estimate = 0.093 at $p > 0.10$. Thus, the results did not support H5.

CONCLUSION AND IMPLICATIONS

The purpose of this article is to offer some useful and practical guidelines to PIHEs regarding the choice of study students make before selecting an institution of higher education. The findings of this research can be useful to different institutions of higher education in designing strategies to attract and satisfy students in the current era, which is highly competitive.

The findings of this research identified and tested factors that are responsible for the students' choice of study in PIHEs. The study revealed that student perceptions play a vital role in their choosing a particular institution. The main determinants of perception in this study were experienced lecturers, suitable syllabus, qualified lecturers, and knowledgeable lecturers. Among these variable measures, knowledgeable ability of the lecturer was reported to be an important factor in changing the students' perceptions about an institution. This particular finding is of extreme importance to the higher education policy makers and more specifically to the PIHE, as it provides a clear indication that student perceptions about an institution can be influenced positively if knowledgeable lecturers are part of that institution, thus attracting students to choose it for their higher education studies. Hence, PIHEs should focus on its academicians' expertise in promoting their institutions to these potential students.

In a similar manner, the results of this study also exposed the importance of promotion in impacting the students' choice of study in PIHEs. This research revealed that students choose institutions that are mainly promoted through radio and television. This finding may encourage institutions that are struggling to compete with the established institutions to use radio and television as the primary medium for promotion. Word of mouth is an important medium that these institutions can adopt, as well, to promote their programmes to potential students. In addition, current students are suggested to become ambassadors by representing their institutions and interacting with their juniors at their respective former schools.

Future studies should focus on the first year of students at both PIHEs and public universities to assess their pre- and post-decisions to further their studies. A study examining these variables will explore many aspects of students' decisions and accomplishments that may or may not be pertinent to PIHEs and Ministry of Higher Education Malaysia.

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