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# STUDENTS' BEHAVIOURAL PATTERNS ON BACHELOR'S DEGREE CHOICES IN SRI LANKA: HEURISTICS?

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## Abstract

*At present National university intake in Sri Lanka has become progressively competitive due to the limited number of placements. Consequently, several private higher educational institutes (PHEIs) in Sri Lanka entered into the higher education market with various international degree programmes of top-ranked foreign universities to cater to the need of university-level education in Sri Lanka. Therefore, this study attempts to uncover the behavioural patterns of students in selecting a Bachelor's degree (BD) from International Degree Programmes which emerged recently in Sri Lanka. Subsequently, the data for the study were collected by 420 first-year students of International Degree Programmes by administering a questionnaire with 59 predefined variables. Of those, 36 variables and 42 variables were identified as the most influential variables by factor analysis for the male and female group respectively. Thereby, it has determined that 'marketing strategy', 'university characteristics', 'infrastructure facilities', 'programme evaluation' and 'reputation of the university' were the common influential factors for both the groups but with different orders of importance. Alternatively, the 'peer' and 'sources of information' are rated as influential in selecting a BD only by the male group. Even though the female group have not remarked any 'information sources' as influential, they rated the 'first impression' of the PHEI impact them in selecting the BD. However, 'financial support' and 'cost'*

*are influential factors for the male group while 'cost' is not imperative for the female students in selecting their BD. Finally, higher education student-choice model was developed based on the heuristics of Sri Lankan students. Indeed the results of this study can be beneficial in optimising the enrolment strategies of PHEIs in Sri Lanka and in guiding prospective students on their BD choices in higher education.*

**Keywords**

Heuristics, Behavioural Patterns, Factor Analysis, Students' Choice, Bachelor's degree, Higher Education, Peer

## 1. Introduction

National university intake in Sri Lanka has become progressively competitive due to the limited number of opportunities available (Abeygunawardena, 2018). Indeed, the selection of students for national universities in Sri Lanka determines by the student's performance at the GCE Advanced Level Examination. The main body responsible for selection and allocation of students for state-funded National universities in Sri Lanka is the University Grants Commission (UGC) which was established under the University Act No 16 of 1978. Of the 149,572 students who were eligible for state-funded university admission from GCE Advanced Level Examination in 2014/2015, only 17.14% have admitted to National universities (UGC, 2016). Moreover, many students who pass out from international schools completing the Advanced level examinations in British curriculum are not able to find a place in National universities (Sunday Times, 2011). Moreover, around 12,000 Sri Lankan students are estimated to go overseas for higher educational opportunities (Daily mirror, 2017). However, the foreign university education is very costly due to the university fees and cost of living and, it could be beyond spending limit of most of the parents (Sunday Times, 2011). As a result, most of the students have been increasingly searching the domestic market for affordable alternative options. According to Knight (2012), foreign universities may have the challenge to fulfil the demand for international education since it is forecasted to be 7.2 million in 2025. Therefore, as a result of Internalization in education, International degree programmes (IDPs) move from one country to another instead of students. Hence most of the foreign universities which hold a higher global rank initiate to offer their Bachelor's degree (BD) through IDPs for international students parallel to their local students (Abeygunawardena, 2018). These circumstances have caused an emergence of IDPs in Sri Lanka, affiliated with Private Higher Educational Institutes to cater to the need of university-

level education. At present, selecting a BD has become strategically complicated in Sri Lanka due to optionality and flexibility of the BD in IDPs. These circumstances have caused an emergence of IDPs in Sri Lanka affiliated with Private Higher Educational Institutes to cater to the need of university-level education. At present, selecting a BD has become strategically complicated in Sri Lanka due to optionality and flexibility of the Bachelor's degrees offered under IDPs. Furthermore, students' choice in selecting a BD regards as a long-term investment decision and students have become consumerists due to the cost of obtaining a BD from IDPs. Moreover, the decision-making process is complex and multifactorial since demographic, economic, social and psychological factors influence the decision of selecting a BD (Briggs, 2006). Hence the difference between 'correct' and 'wrong' choices can be difficult to comprehend at an early stage of selection (Yorke, 1999). The study by Ozga and Sukhnandan (1998) opine that the sub-optimal choices of students would impact negatively on their motivation and academic success which may lead to student dissatisfaction. According to Yorke (1999), the unsatisfactory academic progress of students will be a challenge for the academic reputation of PHEIs. Even though the society is progressing towards social and labour equality between men and women, it is necessary to examine from a psychological perspective whether there are sex differences in the importance that people allocate to factors that determine the decision process (Maria, Maria & Maria, 2007).

## 2. Literature Review

### 2.1 Theoretical Framework

Many studies based on student decision making rely on economics, sociological and combined models to examine factors of students' choice (Somers et al., 2006). The economic model assumes that prospective students are rational actors and make careful cost-benefit analysis when choosing a BD in IDPs (Hossler, Schmit & Vesper, 1999). The sociological model concentrates on the importance of student's background characteristics and socioeconomic status as factors affecting student's choice of a BD. The combined model incorporates the characteristics of the economic and sociological models to describe students' choice process (McDonough, 1997) where it offers more depth and perspective to the decision-making process (Hamrick & Hossler, 1996). The combined models discussed using basic models such as Jackson's model, Chapman's model, Hanson & Litten's model and Hossler and Gallagher's model (Hossler et al., 1999). Additionally, several other researchers reexamined these basic models to develop a framework to discuss the students' choice process in selecting a PHEIs or a

BD. In 2014, Maniu and Maniu developed the students' choice model which includes stages namely 'desire', 'search and evaluation' and 'choice'. It explains the impact of the curriculum, career, costs, information sources, infrastructure, location, social life, reference group, the reputation of the university and teacher. Furthermore, 5-stage students' choice model developed by Vrontis, Thrassou and Melanthiou explained environmental, individual and characteristics of PHEIs and high schools as determinants (Demetris, Alkis & Yioula, 2007). It is apparent that the theories related to decisions have two perspectives; normative and descriptive.

The normative perspective explains the choice of individuals who are behaving rationally in a task which requires decision making and predict the responses about each alternative using statistical models based on the information provided (Maria et al., 2007). However, the descriptive perspective explains how individuals select the BD using psychological processes, the task and environmental characteristics based on real situations. The decision maker's viewpoint is different between the two theories. The descriptive viewpoint grants a limited processing capacity that often leads decision makers to make mistakes when considering complex and dynamics tasks, although they tend to choose options that satisfy them (as cited in (Maria et al., 2007)). Alternatively, the normative viewpoint allows an unlimited processing capacity to examine the possible alternatives and choose the best option. At present, the naturalistic theory which is a branch of descriptive theory use to explain the human decisions based on real situations and the factors influences on them (as cited in (Maria et al., 2007)). The naturalistic theory explains the impact of a student's personal, academic, professional or social life on their choice (as cited in (Maria et al., 2007)). Furthermore, Cannon-Bowers, Salas & Pruitt (1996) highlight the essential traits of a decision and further classified into three group variables: task factors associated with the nature of the decision; internal decision maker factors; environmental factors.

**2.2 Decision making in Real: Heuristics?**

Every day people used to make decisions and personal and environmental variables influence on decisions. According to the rational choice theory, people make logical decision to maximise their utility (Hatala & Case, 2000). Understanding how people arrive at their choices is an area of cognitive psychology that has received attention. Theories have been generated to explain how people make decisions and the influential factors on the decision (McKelvie, 2000). However, researchers on judgment and decision explain the gap between how people make decisions in general and how they should make the decision (McKelvie, 2000). Narayan and

Corcoran-Perry (1997) consider decision making as the action make to resolve a problem (select a BD from alternative BD programmes) by the decision maker (student) within a specific environment. Additionally, when students select the preferred BD from the available alternatives, they have to follow several steps to arrive at a decision (Halpern, 1997). The students' choice in selecting a BD is an investment decision for the student's future endeavours and, they behave as consumers within the decision making process. Moreover, it is important to investigate why people value something than others when making real-world decisions. It is apparent that the same brain system activates to anticipate potential rewards, evaluate potential risks and compare one option with another. The economist and psychologist Herbert Simon introduced the idea of bounded rationality which discusses the limitations on decision-making processes namely cognitive abilities and time constraints towards in optimising the decision (Venkatesh, Morris & Ackerman, 2000). Indeed decision makers have limited number of resources or time to devote to gathering and analysing information before make the decision. Even though people make conscious efforts to make decisions rationally, they need to make assumptions and accept limits on the availability of information. Thereby people use heuristics as a way of reducing the complexity of decision making. Heuristics serves as a framework in which satisfactory decisions are allowed to make quickly and with ease to prioritise some information over the other (Shah & Oppenheimer, 2008). Indeed heuristics are mental shortcuts that reduce the cognitive burden associated with decision making. There are four most important heuristics, each of which provides a tool for overcoming a particular sort of cognitive limitation: the familiarity heuristic (which involves memory); the anchoring heuristic (which involves valuation and reference points); the representativeness heuristic (which involves the estimation of probabilities); the affect heuristic (which involves simulation of feelings and emotions) (Redelmeier, 2005). The familiarity heuristic or availability heuristic is imperatives since it creates the basis for judgments and decisions of humans (McKelvie, 2000). Accordingly, people are inclined to retrieve information that is most readily available in making a decision (Redelmeier, 2005). According to the decision scientist Gerd Gigerenzer, being too familiar with what's being judging may undermine the benefits of familiarity. Furthermore, people tend to overestimate small probabilities than large probabilities. The Anchoring, which is the second heuristic, indicate some initial estimates as an anchor to facilitate human's subsequent judgments (Epley & Gilovich, 2006). Anchoring functions in an uncertain situation at times especially when all information is not readily available to make an accurate judgment. The representativeness

heuristics, which place in the third, is an extremely economical heuristics which occurs under the lack of information (Hilbig & Pohl, 2008). The research studies on representativeness heuristics direct people to estimate the probabilities through available prototypes (Goldstein & Gigerenzer, 2002). Moreover, prototypes formulate based on the available information and if they are rare representativeness heuristics fails (Pachur & Hertwig, 2006). According to psychologists, affect heuristic focuses the internal sense of emotion. It involves choosing one option over another based on their anticipated effects on human's emotional state (Gigerenzer & Todd, 1999). Emotions do not always get in the way of human decisions and can be extraordinarily useful (Gigerenzer & Todd, 1999). Randomness explains the impossibility of predicting future based on the past evidence (Hilbig & Pohl, 2008). It turns out that people show a particular bias when trying to behave randomly. According to Pachur & Hertwig (2006), people try to make short sequences of events seem random, and they introduce too many patterns that alternate between events. Alternatively, nonrandom processes are predictable and contain information (Hilbig & Pohl, 2008). Hence, with careful observations of a nonrandom process, human predictions would get better over time. The inductive reasoning behaviour of human tends to overestimate the available but familiar information when making decisions. Consequently, they believe information as evidence and they tend to understand the value of having lots of evidence, even if that evidence is of low quality (Shah & Oppenheimer, 2008). However, the evidence accumulates over time, and a decision made when the evidence reaches some criterion. The current decision-making models assume that evidence accumulates continuously until the decision made (Redelmeier, 2005). If the evidence seems to be very high quality, then the rate of accumulation is faster, and we decide more quickly even though it may lead to mistakes (Shah & Oppenheimer, 2008). If there is a lot of low-quality evidence, then the rate of accumulation is slower, and decisions are potentially accurate even though they are not faster. However, past experiences can impact future decision making (Jullisson, Karlsson & Garling, 2005). It highlights that people tend to follow the similar process based on the positive result generated from a past decision while they tend to avoid repeating past mistakes (Sagi & Friedland, 2007). It is evident that the impacts of the past experiences on current decisions are remarkable even though they are not necessarily the best decisions. Furthermore, the behaviour of the peer groups of prospective students acts as a mentor to share their previous positive and negative experiences with some evidence. However, experiences are perceptions, emotions or memories evoked due to

an event in an individual. Hence, it confirms that 'word of mouth' is remarkably important in students' decision making.

**2.3 Empirical Evidences**

Several researchers have discussed the parental impact on student's choice of university (Moogan & Baron, 2003; Domino, Libraire, Lutwiller, Superczynski & Tian, 2006; Yamamoto, 2006; Yusof, Ahmad, Tajudin, & Ravindran, 2008). Studies in Asian countries predominantly found that reference groups such as friends, peers, siblings, relatives, teachers and other individuals influence student's choice of university (Ceja, 2004; Ceja, 2006; Yamamoto, 2006; Pimpa & Suwannapirom, 2008). Few other researchers have indicated the positive impact of personal factors on students' choice of university (Nora, 2004; Yamamoto, 2006). Keling (2006) concludes that the reputation of the institution, future graduates' job prospects, cost-effectiveness, the affiliation of the institutions, entry flexibility and institutions' environment are six factors that influence the choice of higher education institutes in Malaysia. The study conducted by Tang, Tang & Tang (2004) indicated the need for a large faculty and a wide range of facilities to increase the student intake. Subsequently, qualification of the teaching staff, the medium of instructions and English language specified field are significant factors among international students in selecting a university (Falindah, Razak & Rohaizat, 2010). Indeed a sample of prospective students and undergraduates rated that the availability of the desired BD program is the most significant factor in selecting a university (Rahayu, Tan & Samsinar, 2000). Furthermore, this factor is also shared by Yusof et al., (2008) along with other factors including the quality of the faculty and financial assistance offered by the PHEIs. Even though numerous factors determined as influential when selecting a BD, the level of importance of those depends on the country and the type of BD. Some internal factors such as previous experience (Jullisson et al., 2005), cognitive biases (Stanovich & West, 2008), age and individual differences (de Bruin, Parker & Fischhoff, 2007) and belief in personal relevance (Acevedo & Krueger, 2004) were also marked as influential on student's choice in selecting a BD. As with other psychological phenomena, gender and age impact on decision making (Hatala & Case, 2000). The fact is that our decisions are affected by our beliefs about the characteristics that differentiate the sexes, although these beliefs may exist on questionable criteria (Hawkins & Power, 1999). Although some significant differences on gender have identified by other research studies, most of them are minimal and limited (Crow, Fok, Hartman & Payne, 1991; Venkatesh et al., 2000). It seems that women are more affected by the environment, look for more

information and dedicate more time to the decision-making process (Crow et al., 1991). Men, on the contrary, are more dominant, assertive, objective and realistic (Wood, 1990). However, these differences have interpreted as the result of the incidence of gender-related social norms and stereotypes which have transmitted to the form of values, traditions and behavioural expectations (Bussey & Bandura, 1999). Regarding age, many studies within the naturalistic approach have been carried out with youth, adults and retired persons (Maria et al., 2007). As the sample participants of the present study are within the age group between 18-21 years, the age differences on decision making have not taken into consideration. However, the human brain looks for patterns automatically without any conscious effort. Furthermore, it is looking for something that is predictable and meaningful to provide guidance or change the behaviour. Moreover, the relevance and importance marked by students for the available information are subjective. However, the IDPs are very popular among Sri Lankan students due to the optionality and flexibility offered in it. They may choose their preferred modules and study majors based on a large number of subjects listed in the prospectus of the foreign university irrespective of the subject stream done for advanced level examination. Indeed the decision-making process is complex and multifactorial. Consequently, the negative impact may arise in continuing the selected BD if the students' capabilities do not match with the challenges and requirement. Therefore, the aim of the present study was to examine the nature of students' behaviour in selecting a BD in IDPs and further to determine whether there are any sex differences in the importance that students allocate to factors.

## 3. Research Methodology

The overall study objective was to determine the factors which influence mostly on Sri Lankan students' choice in selecting a BD from IDPs. The research was designed to capture respondents' perceptions of factors that had influenced their decision in selecting a BD in IDPs, immediately following the decision making process. The study began with the review of relevant literature to identify the influential factors found in previous studies. Further, official documents of PHEIs were reviewed to get the awareness about the characteristics of the IDPs conducted in Sri Lanka. The B.Sc (Bachelor of Science), B.Eng (Bachelor of Engineering) and BA/BBA (Bachelor of Arts and Business Administration) degrees have selected out of other Bachelor degrees offered through IDPs for the present study to cover the STEM (Science, Technology, Engineering and Mathematics) and Management related disciplines which demand highly in the

job market recently. All PHEIs who offer IDPs have categorised into 3 types of BDs (BSc, BEng, BA/BBA) using stratified random sampling and 7 PHEIs have selected randomly to collect 420 first-year students. The target population is ' all undergraduates enrolled for a BD offered under IDP in all PHEIs'. Indeed the accessible population is limited to ' all first-year undergraduates in STEM and Management related BDs of IDPs in all PHEIs'. A simple random sample of 420 first-year undergraduates in STEM and management related BDs in randomly selected 7 PHEIs have considered for the survey. The developed questionnaire for first-year undergraduates has checked for the subject suitability by few senior academics and graduates at the participating PHEIs. The questionnaire required respondents to provide demographic data about their background information and to rate their opinion for the list of 59 independent variables identified by the literature review within a scale of 1 to 5 where 5 is 'strongly agreed' and 1 is 'strongly disagreed'. The list of 59 variables was employed to ensure an accurate representation of the characteristics which respondents perceived to be important in their choice decision.

## 4. Data Analysis

Data collected through the questionnaire was analysed using SPSS and descriptive analysis and factor analysis used. The principal component analysis (PCA) was the approach used in factor analysis which identified the variation explained by each component. The results of PCA validated with the scree plot and comparison was done gender-wise. It has determined that 36 variables and 42 variables are influential in selecting a BD for the female and male group of the sample respectively. Furthermore, it has noted that those variables have grouped under 7 and 8 different components by the PCA respectively. Moreover, these variables explained 56.223% and 60.05% of the total variation respectively. Afterwards, the components have labelled based on the variables grouped under each by the PCA. Later, the mean comparison made between female and male groups to identify the importance allocated to each variable when responding to the 59 predefined variables in the questionnaire.

### 4.1 Mean Comparison between Female and Male Groups

The mean comparison of the variables between male and female groups encountered based on the descriptive analysis and results are as follows. According to descriptive statistics, It is evident that 66% of the variables in the female group shows a mean value higher than 3 and ’industry demand for the BD programme’ remark the highest mean value of 3.63. Furthermore, around 50% of those variables have grouped under infrastructure facilities, financial support,

programme evaluation, university characteristics and reputation of the university. Indeed 7 different variables with a low mean (less than 3) have grouped under 'marketing strategy' and 'first impression' which explained 7.379% of the variation in total. However, the lower mean value for the female group is 2.47 which corresponds to the variable 'location of the university is convenient and accessible'. As this variable has a high correlation with marketing strategy, it is essential for PHEIs to market their location as an indicator to attract female students in their enrollment strategies. Additionally, it is evident that around 10% of the variables whose mean values are higher than 2.8 in the female group do not have any correlation with any of the components extracted by PCA while those are influential for the male group. It has reported that 78% of the variables in the male group shows a mean value higher than 3 in which the highest mean value of 3.7 corresponds to ’affiliation to the foreign university’. Furthermore, 4 variables whose mean value is less than 2.5 have loaded under the 7th component of PCA which is labeled as ’sources of information (messenger)’ which explained around 3% of the total variation individually. Even though these variables such as ’website information’, ’paper advertisement information’ and ’parents influences’ have the lowest mean values, it has been highly correlated with the factor namely ’messenger’ for the male group while it was not influential for the female group. Notably, the factor namely ’sources of information’ is highly influential in several other studies and it is evident to confirm that females have not influenced by the factor 'sources of information' in their BD choice. Therefore, PHEIs should concern more about the findings of the present study to refine their enrollment strategies. Additionally, around 13.6% of the variables have not extracted by PCA as influential for the male group even though their mean values are higher than 2.8 and the results are different with female group. Consequently, around 11.2% of the variables tested through the questionnaire have not rated by both groups as influential in their BD choice. Indeed those variables include encouragement by the counsellors, school teachers and influences through social networking sites have not rated as reliable sources of information by the Sri Lankan students since their mean values are lower than 2.8.

**4.2 Factor Analysis**

Factor analysis was used as a data reduction method to identify the most influential factors on students’ choice in selecting a BD. Indeed the reliability of the data set has checked using Cronbach’s alpha value before the factor analysis. It is apparent that the items in the questionnaire are reliable or internally consistent if the Cronbach’s Alpha value is greater than 0.7 (Saunders, Lewis & Thornhill, 2012). The Cronbach’s alpha value for 59 different variables

in the male and female groups was found to be 0.946 and 0.938 respectively which confirms the data sets are reliable to apply the factor analysis. Indeed to make it more reliable, 'item-total statistics' under the reliability measure in SPSS was conducted to identify the individual impact of all 59 variables to the Cronbach's alpha value. It is evident that the elimination of any of the variables will not be resulted to increase in Cronbach's alpha value for both the groups. Furthermore, it has identified that those variables are not confirmed as influential factors by the scree plot for further analysis even though they have identified by PCA. Hence none of the variables removed from both the groups to increase the Cronbach's alpha value and decided to continue the factor analysis with all 59 variables. Furthermore, in applying the Kaiser-Meyer-Elkins (KMO) overall measure of sampling adequacy, a score of 0.795 and 0.860 has recorded for female and male groups respectively. Those values for both groups are in the acceptable range based on the fact that KMO value is greater than 0.6 is considered acceptable (Tabachnick & Fidell, 2013). Moreover, Bartlett's test of Sphericity is found to be significant for both the groups of students. Both KMO and Bartlett's test has proved that the data sets for female and male groups remain appropriate for factor analysis. The PCA was the approach used in factor analysis which identified the variation explained by each component. It is evident that 70.587% of the total variance explained by the extracted 13 components in the male group while for the female group 72.07% of the total variation explained by the extracted 14 components. The scree plot has checked for male and female dataset individually before deciding about how many components to extract from the PCA. It is evident that the scree plot begins to flatten after 7th component for the female group and for the male group it exists after 8th component. It is evident that the scree plot begins to flatten after 7th component for the female group and for the male group it exists after 8th component. Moreover, the scree plot has indicated that the first 7 components explain 56.224% of the total variation which is higher than from the 8th component to 14th component (15.847%) for the female group.

**Table 1:** *Rotated Component Matrix from Factor Analysis – Gender Wise*

| | Component - Female group | | | | | | | Component - Male group | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Factor 1 | | | | | | | | | | | | | | 0.728 | |
| Factor 2 | | | | | | | | | | | | | | 0.719 | |
| Factor 4 | | | | | | | 0.764 | | | | | | | | |
| Factor 5 | | | | | | | 0.827 | | | | | | | | |
| Factor 6 | | | | | | | 0.639 | | | | | | | | |
| Factor 7 | | | | | | | 0.718 | | | | | | | | |
| Factor 8 | | | | | | | | | | | | | | 0.654 | |
| Factor 9 | | | | | | | | | | | | | | 0.541 | |
| Factor 10 | | | | | | | | | | | | | | | 0.914 |
| Factor 11 | | | | | | | | | | | | | | | 0.846 |
| Factor 15 | | | | | 0.759 | | | | | | 0.78 | | | | |
| Factor 16 | | | | | 0.708 | | | | | | 0.544 | | | | |
| Factor 17 | | | | | 0.743 | | | | | | 0.534 | | | | |
| Factor 18 | | | | | 0.616 | | | | | | 0.71 | | | | |
| Factor 19 | | | | | | | | | | | 0.674 | | | | |
| Factor 20 | | | | | | | | | 0.722 | | | | | | |
| Factor 21 | | | | | | | | | 0.7 | | | | | | |
| Factor 22 | | | | | | | | | 0.748 | | | | | | |
| Factor 23 | | 0.724 | | | | | | | 0.678 | | | | | | |
| Factor 24 | | 0.734 | | | | | | | 0.715 | | | | | | |
| Factor 25 | | 0.72 | | | | | | | 0.571 | | | | | | |
| Factor 26 | | 0.746 | | | | | | | 0.683 | | | | | | |
| Factor 28 | | | | | | | | 0.609 | | | | | | | |
| Factor 29 | 0.509 | | | | | | | 0.759 | | | | | | | |
| Factor 30 | 0.515 | | | | | | | 0.69 | | | | | | | |
| Factor 31 | 0.795 | | | | | | | 0.76 | | | | | | | |
| Factor 32 | 0.758 | | | | | | | 0.802 | | | | | | | |
| Factor 33 | 0.782 | | | | | | | 0.683 | | | | | | | |
| Factor 34 | 0.793 | | | | | | | 0.722 | | | | | | | |
| Factor 35 | 0.727 | | | | | | | | | | | | | | |
| Factor 36 | 0.667 | | | | | | | 0.583 | | | | | | | |
| Factor 37 | 0.612 | | | | | | | 0.674 | | | | | | | |
| Factor 38 | | | | | | | | | | 0.698 | | | | | |
| Factor 39 | | | | | | 0.598 | | | | 0.78 | | | | | |
| Factor 40 | | | | | | 0.785 | | | | 0.738 | | | | | |
| Factor 41 | | | | | | 0.74 | | | | 0.542 | | | | | |
| Factor 42 | | | | | | 0.635 | | | | 0.511 | | | | | |
| Factor 43 | | | | | | | | | | 0.599 | | | | | |
| Factor 44 | | | | | | | | | | | | 0.542 | | | |
| Factor 45 | | | | | | | | | | | | 0.604 | | | |
| Factor 46 | | | 0.501 | | | | | | | | | 0.673 | | | |
| Factor 47 | | | 0.617 | | | | | | | | | 0.602 | | | |
| Factor 48 | | | 0.678 | | | | | | | | | | | | |
| Factor 49 | | | 0.733 | | | | | | | | | | | | |
| Factor 50 | | | 0.64 | | | | | | | | | | | | |
| Factor 54 | | | | 0.78 | | | | | | | | | 0.555 | | |
| Factor 55 | | | | 0.514 | | | | | | | | | 0.547 | | |
| Factor 56 | | | | 0.695 | | | | | | | | | 0.639 | | |
| Factor 57 | | | | 0.644 | | | | | | | | | 0.724 | | |
| Factor 58 | | | | 0.707 | | | | | | | | | 0.689 | | |
| Factor 59 | | | | 0.614 | | | | | | | | | | | |

Moreover, for the male group, the first 8 components explain 60.055% of the total variation which is higher than from the 9th component to 13th component (10.537%). Finally, it is evident from the responses to the questionnaire that 36 variables and 42 variables loaded into

the 7 and 8 components of the PCA have identified as influential factors in selecting a BD for the female and male groups respectively. The varimax rotation was used to determine the maximum number of independent variables with high factor loadings into each component extracted by the PCA individually (Field, 2005). The factor analysis has conducted several times to determine independent variables of higher correlation. Indeed data were suppressed if the absolute value of the coefficient was less than 0.45 to remove the inter-correlations between the variables and the components. Moreover, the Cronbach's alpha value, KMO value and Bartlett's test of sphericity have monitored continuously by removing the variables which have been loaded into multiple components. Additionally, the rotated component matrix has reviewed to identify the variables listed under 7 and 8 components for the female and male groups separately and listed above in Table 1. Furthermore, those variables have overviewed to identify an appropriate name for each component. In conclusion, infrastructure facilities, Marketing strategy, university characteristics, programme evaluation and reputation of the university are the common factors which influence both female and male students. Additionally, 'first impression' and 'financial support' are the other influential factors for female students while 'sources of information' (messenger), ''cost and financial support' and 'peer' are the other influential factors for male students in the sample.

**Table 2:** *Rank Order of the Influential Factors Based on the Contribution to the Total Variance*

| Order | Female students | | | Male students | | |
|---|---|---|---|---|---|---|
| | Factor (labeled) | % of variance | # of variables loaded | Factor (labeled) | % of variance | # of variables loaded |
| 1 | Infrastructure facilities | 23.485 | 9 | Infrastructure facilities | 25.88 | 9 |
| 2 | Financial support | 10.203 | 4 | Cost & financial support | 10.015 | 7 |
| 3 | Reputation of the university | 5.913 | 5 | University characeteristics | 5.543 | 6 |
| 4 | Programme evaluation | 5.499 | 6 | Marketing strategy | 5.283 | 5 |
| 5 | Marketing strategy | 4.254 | 4 | Reputation of the university | 3.828 | 4 |
| 6 | University characeteristics | 3.745 | 4 | Programme evaluation | 3.858 | 5 |
| 7 | First impression | 3.125 | 4 | Messenger | 2.909 | 4 |
| 8 | - | | | Peer | 2.739 | 2 |
| | **Total** | **56.224** | **36** | | **60.055** | **42** |

The table 2 above displays how male and female students rated these influential factors based on their order of importance along with number of variables loaded into each influential factors (extracted components of the PCA) and the contribution of those variables to the total variation explained.

## 5. Findings & Discussions

As highlighted in Table 1, it is evident to confirm that the order of importance placed for the individual factors is different among gender excluding the 1st factor namely 'infrastructure facilities'. The importance of these influential factors about students' choice in selecting a BD and the individual differences between male and female students discussed below.

### 5.1 Infrastructure Facilities

It is evident that the most preferred influential factor for both male and female students in the sample. According to table 1 above, 9 independent variables have grouped under the 'infrastructure facilities' in both the groups in which the total variation is different between the two groups. Furthermore, the 'availability of the modern IT lab with trained staff' has remarked a higher mean value and factor loading for the female group while it is not influential for the male group. Alternatively, 'accommodation provided for affordable rates' has indicated a higher mean value of 2.7 for the male group while it is not influential for the female group. Indeed 'sporting facilities' and 'medical facilities' are highly influential for female and male groups respectively.

### 5.2 Cost Component

Even though the cost component of the BD choice has remarked as the 2nd most influential factor for both the groups, it was labelled differently for the male and female groups due to the independent variables grouped under each component. Additionally, the variables towards financial offers such as 'scholarships', 'student loans' and 'flexible payment schemes' are highly correlated into the cost component of the female group. Therefore, the 2nd influential factor for the female group has labelled as 'financial support'. Furthermore, all variables listed under the 'financial support' in the female group have loaded into the male group with additional variables namely 'cost of alternative programme' and 'other costs involved'. Therefore, the factor labelled as 'cost and financial support' for the male group since it is evident that male students have considered both the 'cost' and 'financial support' offered by the PHEIs in their BD selection. PHEIs market their BD programme as a product and anchor the cost of it to create the awareness of their BD programme for the prospective students. It is evident that the female group has not considered the 'cost of the programme' as an anchor when comparing alternative BDs.

### 5.3 Reputation of the University

The order of importance placed to the ’reputation’ is different among male and females groups and, it is the 3rd influential factor for females and 5th for male students. Further, the independent variables such as ’Alumnai of the university’ and ’employment assistance provided by the university’ are common for both male and female groups with a higher mean value. However, the highest factor loading for the male group corresponds to the ‘Alumnai of the university’ while ‘personal follow up from lecturers and advisers’ for the female group. It has indicated that the ‘reputation of the institute’ ranked by the female group as an academic role of the university. Furthermore, they have rated ‘number of lecturers’ and ’academic research background of the university’ as influential which is remarkably popular indicators of foreign university reputation criteria. Alternatively, male group concern more about ’previous results records’ and ’number of degree offers’ when rating the reputation of the university as the influential factor. Consequently, the importance placed for the reputation of the university by the male group is lesser than other factors since it explains 3.8% of the total variation. Furthermore, males have rated the 'university characteristics' to their first preferred factor than the 'reputation of the university'.

### 5.4 Programme Evaluation

The importance placed for the ’programme evaluation’ is different among the two groups and it was the 4th influential factor for females while it is the 6th influential factor for males. Furthermore, it has indicated that variables namely ’optional units offer’, ’industry demand’, ’arrangement of special study programmes based on the requirement’, ’the availability of the required degree programme’ and ’international recognition of the Bachelor’s degree’ are highly influential for male and female groups in the sample. Furthermore, ’industry demand of the programme’ have rated with the highest mean value of around 3.7 by both groups with high correlation. Additionally, the female group have rated ’methodology of teaching’ as influential with a mean value of 3.35 and with a higher factor loading of 0.644 which confirms that the female students are more related to the academic role of the university.

### 5.5 Marketing Strategy

This factor has rated as the 5th influential factor and 4th influential factor for the female and male groups respectively. The variables related to accessibility and location of the university has grouped into this variable with a higher mean value.

**5.6 University Characteristics**

This factor has rated as the 3rd influential factor by males which explain 5.5% of the total variation although it is the 6th influential factor for female students. Indeed the variables such as ’higher educational opportunities offered for graduates’, ’social environment’ and ’discipline of undergraduates’ are the common indicators for both the groups with higher factor loadings. Additionally, the variable ’future graduate job prospects’ has remarked as influential only by male students.

**5.7 First Impression**

This factor is the 7th influential factor for female students which include variables to create the awareness of the university and the BD programme to enhance the desire of the enrollment. Indeed those variables are ’familiarity about the university in a school competition’, ’educational conferences organised’, ’open days’ and ’meet university delegates at an educational fair’. It is evident that the factor ’first impression’ has implied as the sources of information by the female group while it displays a different behavioural pattern by the male group.

**5.8 Sources of Information (Messenger)**

This factor has remarked as the 7th influential factor for the male group and the variables loaded into this factor includes the information depicted by 'websites' and 'paper advertisement' along with 'parent influence'. These variables have not rated as influential by the female group.

**5.9 Peer**

This factor has rated as the 8th influential factor by the male group where it has not rated by females. Indeed the variable such as 'advice from peers within the preferred BD programme' and 'advice from peers enrolled for the same university' has influenced them highly on their BD choice. Additionally, those 2 variables remarked higher factor loadings which explain 2.7% of the total variation. It is evident through the findings that ’peer’ have not considered as another ’sources of information’ by the male group but as a ’mentor’ to get recommendations based on their experiences.

Prospective students may compare these factors to differentiate PHEIs and available BDs to select the best possible BD out of other alternatives. However, it is apparent that students would have taken the BD selection based on the limited information if all these information is not readily available with all PHEIs they preferred.

## 6. Students' Behavioural Patterns on Higher Educational Decision making

Gender is an important identity which compares the differences of thought process and behaviour of people. Indeed, this study has indicated the gender differences in the decision processes of the participants of this study and remarkably highlighted that male and females do not behave in the same way when they make educational decisions. Female students preferred the academic role of the PHEIs and not concern any other sources of information except for the first impression. Male students have accessed cost component of the preferred BD as an influential factor which is significantly different to female students' behavioural patterns. The cost of the BD programme is one of the main attributes of the students' choice since it acts as an anchor during the 'search' and 'evaluation of alternatives' stages in the decision-making process. Additionally, the importance remarked by males for the factors namely 'messenger' and 'peer' is different since it has determined as two different influential factors to them. It has noted that 'word of mouth' is highly influential for male students since it consists of positive and negative feedback and opinions of the graduates and seniors. Thereby it is evident that the importance mark by male students for other available information is less influential than 'word of mouth'. Alternatively, the behavioural patterns of female students' have focused more into the available information while they concern more about their own decisions than getting recommendations from others. Hence, it is evident to confirm that behavioural patterns on educational choices in Sri Lankan students are different among gender.

Therefore, the nonrandom process of student decision making is proposed based on the influential factors determined by the male and female students and, it illustrates in Figure 1 below. This framework explains a combination of individual and environmental influences which trigger the first stage labeled as 'desire'. Consequently, students should be able to identify the need for higher education towards their career prospects and to gain further knowledge and experience. As highlighted by Fernandez (2010), students select their higher educational opportunities based on the information compiled in different sources. Furthermore, the student enters the stage 'information search' following the stage 'desire' in which various influential factors impact on the intensity of this stage. The second phase 'search' outlines the dynamic process whereby students decide about which BD to select and to which university to apply in pursuing their university-level education. The preference list of BDs and PHEIs prepares at the end of phase 2 and, the evaluation of alternatives process begins in the third stage namely ' evaluation of alternatives' by eliminating options from the preference list. Therefore, all

influential factors determined by the male and female students influence the proposed decision-making model. During the 4th phase namely 'choice', PHEIs strengthen their communication in various modes to attract prospective students and facilitate them for their choice. The student feedback after the last stage namely 'consumption' is critical and it directs for the prospective students through 'peer' or 'messenger'.

## 7. Conclusion

The discussion about differences and similarities between male and female students is always a fashionable topic in the domain of scientific research and, in public opinion. In conclusion, the model of students' choice in selecting a BD from IDP is developed based on the behavioural patterns of Sri Lankan students as an outcome of the present study.

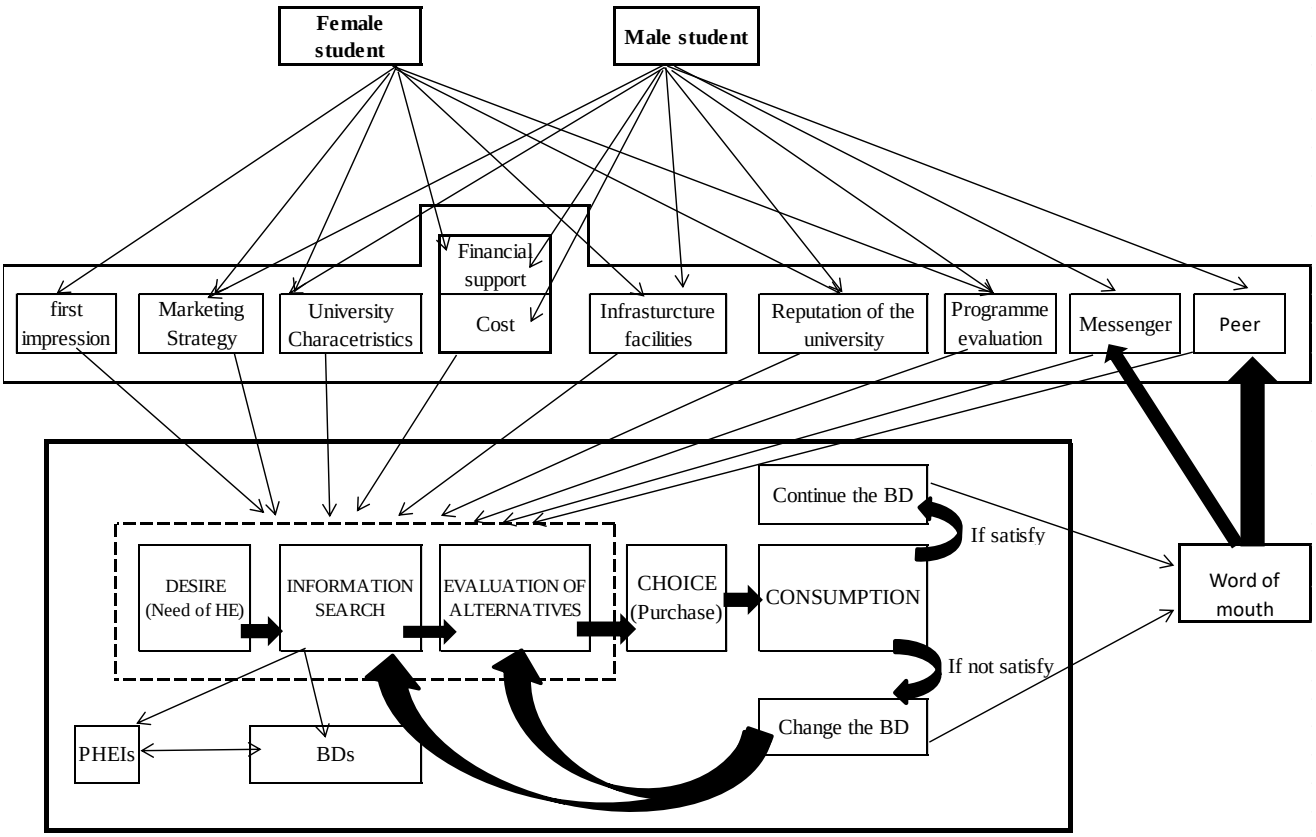


**Figure 1:** *Higher Education Student-Choice model*

## 8. Suggestion

Heuristics are simple rules that allow people to solve problems and make judgments quickly and efficiently. They are mental shortcuts that usually involve focusing on one aspect of

complex situations. Even though these rules work well under most circumstances, they can lead to systematic deviations from rational choice theory. Accordingly, cognitive biases may occur as thinking patterns based on the limited information that may lead to memory errors or inaccurate judgments. Due to the complex and multifactorial process in selecting a BD, by processing the available but limited information, cognitive biases may influence the BD choice as a confounding variable. Hence, the present study proposes to use Behavioural Economics approach to minimise the cognitive biases and to optimise the students' choice in selecting a BD.

## References

Abeygunawardena, K. A. V. (2018). Influential Factors in Selecting a Bachelor's Degree from Private Higher Educational Institutes in Sri Lanka: A Study Based on Undergraduates of International Degree Programmes. PEOPLE: International Journal of Social Sciences, 4(2), 75-96. https://doi.org/10.20319/pijss.2018.42.7596

Acevedo, M., & Krueger, J., I. (2004). Two egocentric sources of the decision to vote: The voter's illusion and the belief in personal relevance. Political Psychology, 25(1), 115-134. https://doi.org/10.1111/j.1467-9221.2004.00359.x

Briggs, S. (2006). An exploratory study of the factors influencing undergraduate student choice: the case of higher education in Scotland. Studies in Higher Education, 31(6), 705-722. https://doi.org/10.1080/03075070601004333

Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. Psychological Review, 106, 676-713. https://doi.org/10.1037/0033-295X.106.4.676

Cannon-Bowers, J. A., Salas, E., & Pruitt, J. S. (1996). Establishing the boundaries of a paradigm for decision making research. Human Factors, 38(2), 193-205. https://doi.org/10.1518/001872096779048066 https://doi.org/10.1177/001872089606380202

Ceja, M. (2004). Chicana College Aspirations and the Role of Parents: Developing Educational Resiliency. Journal of Hispanic Higher Education, 3(4), 338-362. https://doi.org/10.1177/1538192704268428

Ceja, M. (2006). Understanding the role of parents and siblings as information sources in the college choice process of Chicana students. Journal of College Student Development, 47(1), 87-104. https://doi.org/10.1353/csd.2006.0003

Crow, S. M., Fok, L. Y., Hartman, S. J., & Payne, D. M. (1991). Gender and values: What is the impact on decision making?. Sex Roles, 25(3/4), 255-268. https://doi.org/10.1007/BF00289858

Daily mirror. (2017, February 27). Non-state actors in higher education in Sri Lanka: Issue and challenges. Retrived from http://www.dailymirror.lk/article/Non-state-actors-in-higher-education-in-Sri-Lanka-Issues-and-challenges-124528.html

De Bruin, W. B., Parker, A. M., & Fischhoff, B. (2007). Individual differences in adult decision-making competence. Journal of Personality and Social Psychology, 92(5), 938-956. https://doi.org/10.1037/0022-3514.92.5.938

Demetris, V., Alkis, T., & Yioula, M. (2007). A contemporary higher education student-choice model for developed countries. Journal of Business Research, 60(9), 979-989. https://doi.org/10.1016/j.jbusres.2007.01.023

Domino, S., Libraire, T., Lutwiller, D., Superczynski, S., & Tian, R. (2006). Higher education marketing concerns: factors influence students' choice of colleges. The Business Review, Cambridge, 6(2), 101-111.

Epley, N., & Gilovich, T. (2006). The anchoring-and-adjustment heuristic. Psychological Science, 17(4), 311-318. https://doi.org/10.1111/j.1467-9280.2006.01704.x

Falindah, P. S., Razak, K. A., & Rohaizat, B. (2010). International students' choice behavior for higher education at Malaysian private universities. International Journal of Marketing Studies, 2(2), 202–211.

Fernandez, J. L. (2010). An exploratory study of factors influencing the decision of students to study at University Sains Malaysia. Kajian Malaysia, 28(2), 107-136.

Field, A. (2005). Discovering statistics using SPSS. (2nd Ed.). London: Sage.

Gigerenzer, G., & Todd, P. M. (1999). Simple Heuristics that Make us Smart. New York, NY: Oxford University Press.

Goldstein, D. G., & Gigerenzer, G. (2002). Models of ecological rationality: The recognition heuristic. Psychological Review, 109(1), 75-90. https://doi.org/10.1037/0033-295X.109.1.75

Halpern, D. F. (1997). Critical thinking across the curriculum: A Brief Edition of Thought and Knowledge. (1st Ed.). Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.

Hamrick, F. A., & Hossler, D. (1996). Diverse information-gathering methods in the post-secondary decision-making process. Review of Higher Education, 19(2), 179–198. https://doi.org/10.1353/rhe.1996.0029

Hatala, R., & Case, S, M. (2000). Examining the influence of gender on medical students' decision making. Journal of Women's Health and Gender Based Medicine, 9, 617-623. https://doi.org/10.1089/15246090050118143

Hawkins, K., & Power, ChB. (1999). Gender differences in questions asked during small decision-making group discussions. Small Group Research, 30, 235-256. https://doi.org/10.1177/104649649903000205

Hilbig, B. E., & Pohl, R. F. (2008). Recognition users of the recognition heuristic. Experimental Psychology, 55(6), 394-401. https://doi.org/10.1027/1618-3169.55.6.394

Hossler, D., Schmit, J., & Vesper, N. (1999). Going to college: How social, economic, and educational factors influence the decisions students make. Baltimore: Johns Hopkins University Press.

Jullisson, E. A., Karlsson, N., & Garling, T. (2005). Weighing the past and the future in decision making. European Journal of Cognitive Psychology, 17(4), 561-575. https://doi.org/10.1080/09541440440000159

Keling, S. B. A. (2006). Institutional factors attracting students to Malaysian institutions of higher learning. International Review of Business Research Papers, 2(1), 46-64.

Knight, J. (2012). Student mobility and internationalisation: Trends and tribulations. Research in Comparative and International Education, 7, 20–33. https://doi.org/10.2304/rcie.2012.7.1.20

Maniu, I., & Maniu, G. C. (2014). A model of students' university decision making behaviour. SEA – Practical Application of Science, 2(3), 431–436.

Maria, L. L., Maria, T. S. A. B., & Maria, C. E. (2007). Factors that affect decision making: Gender and Age differences. USA. International Journal of Psychology and Psychological Therapy, 7 (3), 381-391.

McDonough, P. M. (1997). Choosing colleges: How social class and schools structure opportunity. Albany: SUNY Press.

McKelvie, S. J. (2000). Quantifying the availability heuristic with famous names. North American Journal of Psychology, 2(2), 347-357.

Moogan, Y. J., & Baron S. (2003). An analysis of student characteristics within the student decision-making process. Journal of Further and Higher Education, 27(3), 271–287. https://doi.org/10.1080/0309877032000098699

Narayan, S. M., & Corcoran-Perry, S. (1997). Line of reasoning as a representation of nurses' clinical decision making. Research in Nursing & Health, 20(4), 353-364. https://doi.org/10.1002/(SICI)1098-240X(199708)20:4<353::AID-NUR8>3.0.CO;2-F

Nora, A. (2004). The Role of habitus and cultural capital in choosing a college, transitioning from high school to higher education, and persisting in college among minority and monminority students. Journal of Hispanic Higher Education, 3(2), 180-208. https://doi.org/10.1177/1538192704263189

Ozga, J., & Sukhnandan, L. (1998). Undergraduate non-completion: developing an explanatory model. Higher Education Quarterly, 52(3), 316-333. https://doi.org/10.1111/1468-2273.00100

Pachur, T., & Hertwig, R. (2006). On the psychology of the recognition heuristic: Retrieval primacy as a key determinant of its use. Journal of Experimental Psychology, Learning, Memory, and Cognition, 32(5), 983-1002. https://doi.org/10.1037/0278-7393.32.5.983

Pimpa, N., & Suwannapirom, S. (2008). Thai students' choices of vocational education: marketing factors and reference groups. Educational Research for Policy and Practice, 7(2), 99-107. https://doi.org/10.1007/s10671-007-9035-9

Redelmeier, D. A. (2005). The cognitive psychology of missed diagnosis. Annals of Internal Medicine, 142(2), 115-120. https://doi.org/10.7326/0003-4819-142-2-200501180-00010

Sagi, A., & Friedland, N. (2007). The cost of richness: The effect of the size and diversity of decision sets on post-decision regret. Journal of Personality and Social Psychology, 93(4), 515-524. https://doi.org/10.1037/0022-3514.93.4.515

Saunders, M., Lewis, P., & Thornhill, A. (2012). Research methods for Business students. (6th Ed.). Harlow: Pearson Education.

Shah, A. K., & Oppenheimer, D. M. (2008). Heuristics made easy: An effort-reduction framework. Psychological Bulletin, 134(2), 207-222. https://doi.org/10.1037/0033-2909.134.2.207

Rahayu, S. H., Tan, H. S., & Samsinar, Md. S. (2000). Marketing analysis of higher education service sector in Malaysia: Consumer perspective. Pertanika Journal of Social Sciences and Humanities, 8(1), 1- 6.

Somers, P., Haines, K., Keene, B., Bauer, J., Pfeiffer, M., McCluskey, J., & Sparks, B. (2006). Towards a theory of choice for community college students. Community College Journal Research and Practice, 30(1), 53-67. https://doi.org/10.1080/10668920500248886

Stanovich, K. E., & West, R. F. (2008). On the relative independence of thinking biases and cognitive ability. Journal of Personality and Social Psychology, 94(4), 672-695. https://doi.org/10.1037/0022-3514.94.4.672

Sunday times, (2011, June 12). University entrance for London A/L students in Sri Lanka. Retrieved from http://www.sundaytimes.lk/110612/Education/ed26.html

Tabachnick, B. G., & Fidell, L. S. (2013). Using Multivariate Statistics. (6th Ed.). United Kingdom: Pearson.

Tang, T. L., Tang, D. S., & Tang, C. S. (2004). College tuition and perceptions of Private University Quality. International Journal of Educational Management, 18(5), 304-316. https://doi.org/10.1108/09513540410543457

University Grants Commission, Sri Lanka : Website : www.ugc.ac.l

Venkatesh, V, Morris, M. G., & Ackerman, P. L. (2000). A longitudinal field investigation of gender differences in individual technology adoption decision-making processes. Organizational Behavior and Human Decision Processes, 83(1), 33-60. https://doi.org/10.1006/obhd.2000.2896

Wood, J.T. (1990). Gendered lives: Communication, gender, and culture. Belmont, CA: Wadsworth.

Yamamoto, G.T. (2006). University evaluationselection: A Turkish case. International Journal of Educational Management, 20(7), 559-569. https://doi.org/10.1108/09513540610704654

Yorke, M. (1999). Leaving early: Undergraduate non-completion in higher education. London: Falmer Press.

Yusof, M., Ahmad, S. N. B., Tajudin, M., & Ravindran, R. (2008). A study of Factors Influencing the Selection of a Higher Education Institution. UNITAR e-journal, 4(2), 27-40.