_____

Attrition and Retention in Higher Education Institution: A Conjoint Analysis of Consumer Behavior in Higher Education

DANILO E. AZARCON, JR.[1a], Cecilio D. Gallardo[2b], Carljohnson G. Anacin[1c], Edna Velasco[2d]

[1]Research & Development Center, University of the Cordilleras, Baguio City, Philippines
[2]College of Arts & Sciences, University of the Cordilleras, Baguio City, Philippines
[a]dani10ph@yahoo.com; [b]cecilio.gallardo@yahoo.com; [c]carljanacin@yahoo.com;

Abstract - *Private higher education institutions (HEIs) have the unique characteristic of being an institution of higher learning and a business entity at the same time. As a business entity, enrollment is the lifeblood of all HEIs that supports all of its other functions. True of any business, attracting customer and retaining them are the most important aspects that determine its profitability. In the case of HEIs, this means convincing prospective students to enroll and upon entering the institution, retain them until graduation. For this reason, it is important to know what drives student's decision to stay or leave the institution. By understanding the different factors affecting students' attrition and retention decision, the university will be able to effectively make strategic adjustments leading to high retention rate among its clientele: the students. Using the marketing research method called Conjoint Analysis, a tool for identifying underlying preference of consumer and the trade-offs they make, the research determined the students' decision making process related to retention and attrition. The research found that quality of education is the most important factor determining retention and attrition among students. Nevertheless, quality of faculty and increase in total fees significantly impacts students' decision to stay or leave a university as well. Communicating and emphasizing the HEI's excellent quality education at every level is the most important strategy that the institution can adopted.*

Keywords: attrition, retention, conjoint analysis, higher education institution, consumer behavior

I. INTRODUCTION

One of the common concerns of an academic institution is how to make students continue to stay in the university to pursue their studies. High attrition rate, or simply, when students decide to leave the university because of some reasons, exists and is continuously experienced in every Higher Education Institution (HEIs). Colleges and universities generally experience attrition rates ranging from twenty-five percent to sixty-five percent of their freshmen classes (Lenning, 1980; Jones, 1986; Govindarajo & Dileep, 2012). Although varying in rate, similar reports have been made quoting freshman and undergraduate attrition at 15 to 25% during the same period (AAHE-ERIC, 1982) up to present as seen in studies in student attrition and retention after decades as evidenced by situations across the globe and the strategies being suggested by many authors (e.g., Rutdgers, n.d.; Clark & Crawford, 1992; Perin & Greenberg, 1994; Hermanowicz, 2004; Nava, 2009; Chen & Soldner, 2013). It is a truthful phenomenon but is a formidable problem of any type of HEIs. High attrition in universities is a priority concern and so pressure exists to attract and retain students in higher education. Even online or higher education distance learning often experience high attrition rate similar to that of traditional, face-to-face classroom education (Latif, Sungsri, & Bahroom, 2009; Street, 2010; Greenland & Moore, 2014).

In order to see clearly the picture of attrition and retention in an HEI, the process of student entry should be considered also as this will be crucial in determining how to make students stay in the university. The University of the Cordilleras (UC) is an HEI in Baguio City, Philippines that has an average student population of 8,000 to 10,000 per year and is consistently competing with three other big universities and several academic institutions in the region. In order to ensure this population annually, the university allots funds for the promotion of the university through career guidance and campaigns in other province and/or regions, publications in local newspapers, and radio announcements. As a result of these promotional

_____

activities, enrollment of new freshmen and transferees from other schools are accommodated by UC.

After attracting students to enroll in UC, the next undertaking of the university, or any other HEI for that matter, is how to make the students stay until they graduate from their chosen course or career. This undertaking is crucial and very essential for an academic institution to highlight and focus on, if it is to uphold its existence as an educational institution. In addition to a direct loss of tuition income, high attrition in an academic institution would also imply a miss in the opportunity to accomplish its educational mission (Bean, 1990), hence, a political and economic issue (Stillman, n.d.; Quigley, 1992; Ascend Learning LLC, 2012).

Similar with other private HEIs, The University of the Cordilleras as a private education institution generates its income mainly on the fees paid by the students. This income is largely dependent on the number of enrollees it attracts and supports all the institution's operations. Thus, the biggest problem that educational institutions encounter in relation to its operation can be rooted from a steady decline in the number of its enrollees. In particular, two of the most pressing problems in such situations are decline in student entry and attrition rate. It is in this light that this study was conducted in order to increase retention of students in the university and bring attrition to a minimum. As a starting point, factors and reasons of high attrition in the university were identified and after identifying the factors, the institution can then examine ways of intervention by crafting a retention policy or program. While the issue about attrition in postsecondary education is imperative and common to all HEIs, what is to be considered and determined also are the various factors or reasons why college students transfer to other universities or drop out. To reduce and save attrition rates, several authors have recommended strategies and programs for public and private institutions to arrest this problem (e.g., Stadtman, 1980; Jones, 1986; Ashar & Skenes, 1996; Smink, 2001; Ascend Learning LLC, 2012; Govindarajo & Dileep, 2012; Greenland & Moore, 2014). Although this study concentrated on the case of UC, the methodological contribution of this paper on the assessment of underlying factors of attrition and retention towards HEI management highlights the significance of this study.

The nature of the reasons why students leave universities vary from student to student, which could be driven by academic factors (Bean & Metzner, 1985; Dirkx & Jha, Clark & Crawford, 1992; 1994; Quigley,

1994; Smink, 200; Stearns et al., 2007; Ascend Learning LLC, 2012;), socio economic factors (Bean & Metzner, 1985; Goldrick-Rab & Pfeffer, 2009); or institutional factors (Clark & Crawford, 1992; Hermanowicz, 2004; Ascend Learning LLC, 2012; Perin & Greenberg, 1994). Specifically, these issues may stem from personal or delicate individual issues such as interest/motivation of pursuing a career in college, inadequate preparation of the student to meet the demands of college requirements, emotional issues or other factors that are too personal which the university has no control over. They may also indicate unmet expectations from the university, dissatisfaction in some of the services (academic and/or non-academic) provided by the institution, and financial issues. Due to few numbers of studies on attrition and retention in Philippine universities, particularly on the role of institution and management, this study dealt with the unmet expectations from the university and the dissatisfaction of students on the services provided by the institution. This is so because by primarily knowing the institutional factors and its relation to attrition and retention of students, the university could have a leeway to intervene in these factors.

II. OBJECTIVES OF THE STUDY

Using Conjoint Analysis, the study seeks to determine push and pulls factors affecting students' decision to either stay or leave the university, and to propose employable means to increase the retention rate of the university. By responding to this issue, then, two scenarios are being taken into action here: attracting high school students to college education and retaining them so that they succeed and graduate. This study focuses on the latter; with a further objective of preparing students for the challenges of a dynamic and ever-expanding workplace. Ultimately the study will be used in coming up with strategies and policy recommendation that will make the University Retention Plan. Moreover, it will look at a range of information that can help the administrators to design programs to enable the various populations of students to successfully complete college education

III. MATERIALS AND METHODS

The research is Conjoint Analysis determining and simulating the students' propensity to stay or leave the university based on different push and pull factors. Conjoint Analysis is a marketing research methodology designed in understanding customer's decision making process (Ighomereho, 2011). Moreover, Conjoint Analysis is also being used in a diverse area of business

applications in determining customer decision making process on product preferences in marketing research (Eylem, Sevil, & Gülay, 2007; Ceylan, 2013; Grünwald, 2012; Kwadzo, Dadzie, Osei-Asare, & Kuwornu, 2013; Carneiro et al., 2012; Barnes, Chan-Halbrendt, Zhang, & Abejon, 2011; Hondori, Javanshir, & Rabani, 2013; Kurtović, Čičić, & Agić, 2008). Its use has extended not only in the realm of business but its application has been proven in social science researches on choice related study in health (Lee et al., 2012; Van Houtven et al., 2011; Bridges et al., 2012; Goossens, Bossuyt, & de Haan, 2008), agriculture (Schnettler, 2012; Zardari & Cordery, 2012), human resource development (Urban, 2013; tourism (Tripathi & Siddiqui, 2010; Hu & Hiemstra, 1996; Ring, Dickinger, & Wöber, 2009, Lopes, 2012), and education (Banoglu, 2012; Nazari & Elahi, 2012; Dağhan & Akkoyunlu, 2012; Kusumawati, 2011) among others.

In this study, the first step in conducting the Conjoint Analysis was to determine important push and pull factors that influence students' decision to stay or leave the university. For this, a focus group discussion (FGD) was conducted to determine attributes/factors and attributes/factor levels that the push and pull factors affecting students' decision to either stay or leave the university. In doing so, the researchers were also able to verify the factors and reasons of attrition as surveyed in the literature. After which, the Conjoint Study was implemented building upon the findings of the previous step where a representative sample of the university population was chosen at random. Further details of the aforementioned steps are mentioned in the succeeding sections.

Participants

In order to develop the attribute/factor and corresponding levels important for the decision making of students, three (3) sets of focus group discussion were conducted. Two representatives from six (6) colleges – College of Accountancy (COA), College of Engineering & Architecture (CEA), College of Teacher Education (CTE), College of Arts & Sciences (CAS), College of Hospitality & Tourism Management (CHTM), College of Business Administration (CBA), College of Information Technology and Computer Science (CITCS), College of Criminal Justice Education (CCJE), and College of Nursing (CON) – were chosen to participate in the FGD. The students totaling to 18 individuals were designated to three groups consisting of six (6) in each group for the FGD.

Inputs from the discussion were used to develop the conjoint instrument.

For the Conjoint Study, a multi-stage sampling was used to determine the respondents. The first stage of sampling involves stratified random sampling using college as the strata. Within these strata, cluster sampling of classes was conducted at random. According to Orme (2010), a sample of 200 respondents yields a robust result for a conjoint analysis study. For this research undertaking, a total of 395 respondents were taken, exceeding the required sample size for a conjoint analysis study. The breakdown of respondents based on college is as follows:

Table 1. *College of Respondents*

College	F	%
COA	66	16.71
CEA	36	9.11
CTE	34	8.61
CAS	48	12.15
CHTM	34	8.61
CBA	49	12.41
CITCS	49	12.41
CCJE	38	9.62
CON	41	10.38
Total	**395**	**100.00**

Materials

In order to identify the important factors considered by the students in their decision to stay or leave the university, a focus group discussion was implemented. A list of guide questions (*see Appendix A*) was used to stimulate conversation among respondents in order for them to identify the important factors in their decision making. This became the basis for the development of the conjoint instrument. The respondents were asked to perform two tasks involving two different research instruments. The first consists of a descriptive questionnaire to know the respondents perception on how the University performs in the different important factors needed in their decision making process. Second, a stack card of 18 combinations of factor levels of the factors important in the decision making process of the students was used.

Procedure

Farrar (2008) proposes five (5) step research protocol to be followed in order to design and execute a conjoint analysis study. These steps includes: a) Identification of attributes, b) Assignment of levels to the attributes, c) Yielding of design product profiles, d)

Selection of the presentation medium, and e) Selection of the technique to be used to analyze the collected data. For this study the following steps were done in based on the guideline set by Farrar (2008):

Step 1: Identification of Attributes: There are various ways to identify attributes to be considered in the conjoint study. Attributes can either be identified using a systematic review of literature on the topic or using a focus group discussion (FGD) methodology. In consideration of the context where the study is conducted, the later was used in order to capture the unique circumstances of the University. Thus, FGD of the University's students were conducted to identify the attributes to be used in the conjoint study.

Step 2: Assigning Levels to the Attributes: The FGD result also provided the basis for the attribute level that was identified.

Step 3: Design Product Profiles: Using the feature of SPSS 15 called orthogonal designs the optimal amount of product profiles or service designs was yielded.

Step 4: Select the Presentation Medium: The study utilized a card shuffle technique as a presentation medium to elicit preferences of respondents.

Step 5: Select the Technique to be used to analyze the Collected Data: In order to measure the importance score and utility measures for the attributes and attribute levels, the ordinary least square regression was used using the conjoint feature in the syntax view of SPSS 15.

Table 2. *Factors and Factor Levels used in the Conjoint Study*

Factors	Factor Levels
QUALITY	Excellent
	Fair
	Poor
FACILITY	Superior
	Satisfactory
	Inferior
FACULTY	Outstanding
	Average
	Below par
SERVICE	Outstanding
	Average
	Below par
CAMPUS	Conducive
	Not Conducive
POLICY	Flexible
	Strict
FEE	5% to 10% increase
	11% to 15% increase
	16% to 20% increase

Through the FGD, the important factors considered by students in their decision to stay or leave the university were identified. Based on the result of the discussion, the following factors and factor levels where identified as important among students in their decision to stay or leave the university.

After which, the descriptive questionnaire and conjoint instrument were developed. Using SPSS 15, Orthogonal Design was applied yielding 18 combinations of factors with varying factor levels. Orthogonal design is a process by which the number of options is reduced significantly into the most optimum number of combinations.

These combinations were then used to make the shuffle cards that would be used by the respondents. During the data gathering time, respondents were asked to perform two tasks, first is to answer a descriptive questionnaire and then the card shuffle exercise. The data gathered were then coded, encoded, recoded and cleaned for data analysis using Microsoft Excel and SPSS 15.

Treatment of Data

Synthesis of the students' responses was verified during the FGD itself, which in turn were used in the final listing of attribute factors for the study. Final listing of factors important to students' decision to stay or leave the university together which clarification on definitions of word meanings were finalized at the end of the FGD and served as final output of the students. After tallying the results, eight (8) major factors were identified by the students as important considerations in their decision making in the area of retention or attrition. These factors included (a) Quality of Education, (b) Facilities, (c) Faculty, (d) Student Services, (e) Campus Life, (f) Policies, and (g) Increase in Fees.

On the other hand, Orthogonal Design was used to produce 18 plan cards by using SPSS 15. Data coming from the conjoint experiment and the descriptive questionnaire were processed using Microsoft Excel and SPSS 15. Conjoint Analysis was then performed to determine how important the different factors are in the decision making process of students, appraise the utility measures of each factor levels, and simulate which combination of factors yield the best scenario for the university to follow in its retention plan. In this study, utility is referred to as the measure used to determine the extent of preference of each student on each level of the factors important in their decision making. Higher utility values, therefore, indicate greater preference. Alongside this, the perceptions of the students on the

_____

performance of the university on the different factors were also determined and analyzed using descriptive statistics.

IV. RESULTS AND DISCUSSION

Conjoint Analysis provides key insight in the understanding of customer preference and decision making process. In the case of the study, this preference refers to the retention and attrition decision of students of UC based on identified important factors on this area. As previously discussed in other parts of the study, the research is divided in to the Conjoint Analysis part and the Descriptive part. For the conjoint analysis part, three important results were measured. These include the importance score measurement, the utility scores of each level of attributes, and the scenario analysis score. For the descriptive area, the current evaluation of the students on the performance of the university on the important attributes/factors was assessed and more importantly salient findings on the definition of these factors/attributes are presented based on thematic analysis of open ended questions.

Importance Scores of Factors Influencing Retention/Attrition Decision of Students

The range of the utility values for each factor provides a measure of how important the factor is to overall preference. Factors with greater utility range give greater significance than those with smaller ranges.

Figure 2 shows the relative importance of each factor, known as an importance score or value on decision making. It represents the percentage importance of each attribute/factor on the over-all preference or decision of the respondents.

Based on the result, Quality of Education (39.20) provides the greatest influence on the overall preference of students. A change in the quality of education will give the greatest impact the students' decision to either stay or leave the university. Furthermore, a substantial and significant level of importance is also given to the attributes Quality of Faculty (17.85) and Increase in Fees (16.79). Accordingly, these factors contribute significantly on the decision of students to stay or leave the university. Campus life and the kind of university policy is observed to be the least contributory to the decision making process of the students when compared with other important factors considered in the study. This means that factors with high importance score factors are the critical areas where changes must be closely monitored since changes made in these factors will shift students' decision either positively or negatively. However, these areas (Quality of Education, Quality of Faculty, and Increase in Total Fees) are strategic areas where desired change can be made in order to increase the likelihood high retention among students.
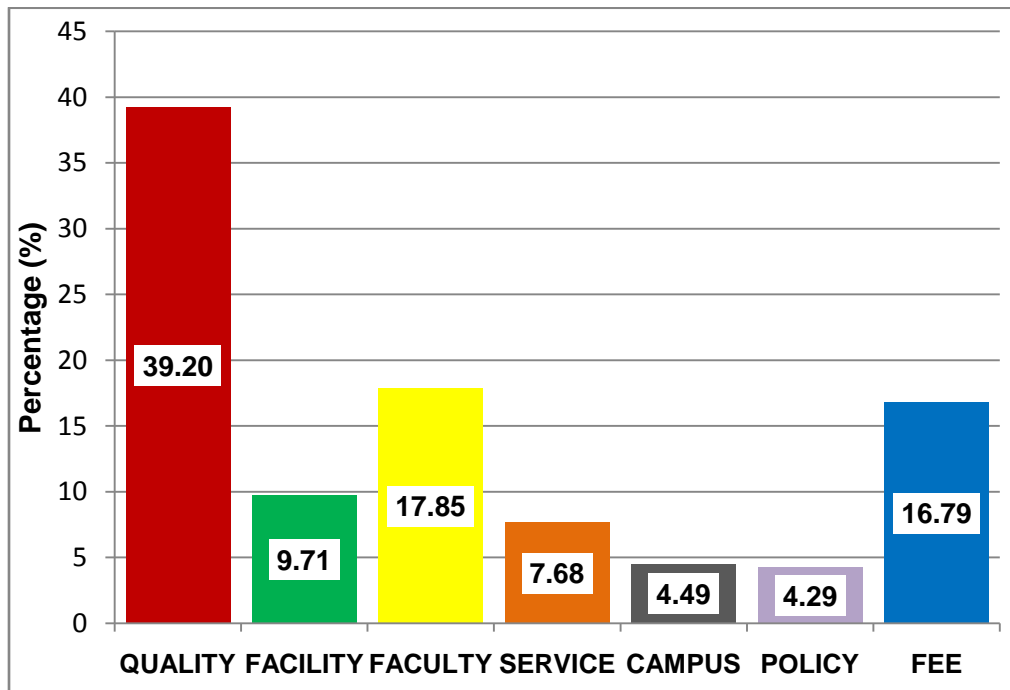

Figure 2. Importance Value on the Key Indicators

Utility Measure of Factor Levels

Using conjoint analysis, the utility measures for each level of important factors determined. Figure 3 shows the utility (part-worth) scores for each factor level. Utility is the measure used to determine the extent of preference of each student on each level of the factors important in their decision making. Higher utility values indicate greater preference. In the case of the current study, a positive utility indicates propensity to stay while a negative utility indicates propensity to leave the university.
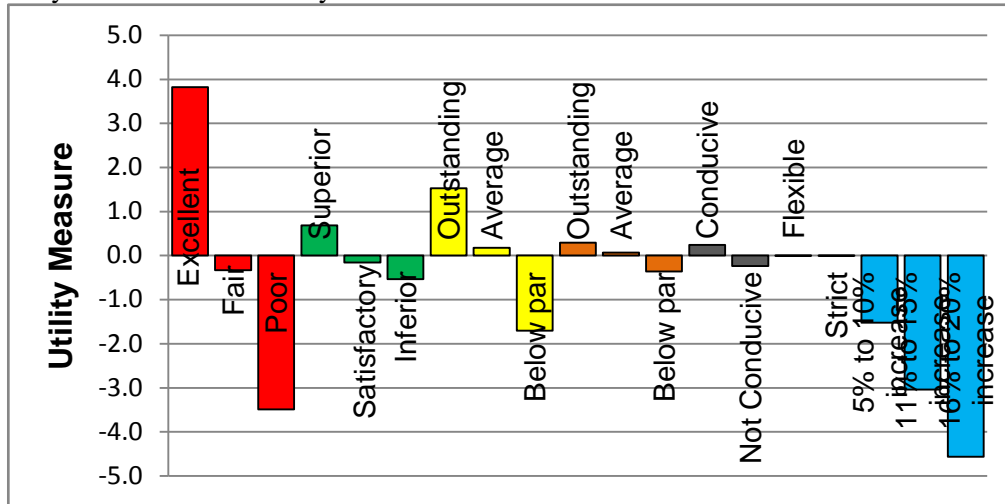
Note: red – quality of education, green- facilities, yellow-faculty, orange- student services, gray – campus life, purple – school policy, blue – increase in total fees

Figure 3. Utility Scores of Factor Levels

Excellent level quality of education (3.82) produces the highest positive utility among the respondents. On the other hand, as expected the highest negative utility is observed for a 16% to 20% increase in total fees with -4.57 utilities. Delving deeper, it can be observed that the negative impact of a 16% to 20% increase in fees is greater in effect than the positive impact of excellent quality education. It is imperative that when increase in fees are planned by the institution, this does not reach a total of 16% to 20% because by then, it would be very difficult to justify this amount of increase even with a high quality of education. It is also noteworthy that the extent of impact a perceived poor quality of education brings on student's over-all utility measure is a high negative utility of -3.49 indicating a drastic decrease in the utility measure of student's preference.

In terms of Quality of Faculty, the result shows that average (0.176) and outstanding (1.529) level of faculty contributes positive utilities to the students' decision making. However, a perceived below par (-1.705) quality of faculty yields negative utility. More importantly, when the contributions of each level is considered, it can be seen that a below par quality of

faculty has higher impact than an outstanding quality of faculty. This same pattern is observed for Student services although in lesser intensity of impact.

Another important feature of the conjoint analysis illustrated by Figure 3 is its ability to measure preferences in terms of the economic measure of utilities. As such, levels of attributes/ factors are measured in a common unit and therefore could be summed up in order to compute for the total utility of any combination. This implies that any combination of attribute levels of the different factors can be summed in order to come up with the total utility for that particular combination. For example, you can be able to know in definite utility measure what is the total utility for having a fair level of education, superior facilities, average teacher, conducive campus life, strict policy, and 10% to 15% increase in total fees. The same is true with all other combinations observed. It provides educational managers a tool to conduct simulations to aid them in decision making.

Scenario Analysis

Table 3 presents an analysis of the different combinations of important attributes in the decision making process of students in relation with their retention or attrition decision. Since, there are very vast numbers of combinations or simulations that can be performed using the information derived from the conjoint analysis, only three scenarios where considered. The purpose of which is to illustrate how a

change in a particular attribute level will impact the preference of students. The Total Utility for each scenario is presented as well as three different statistics to measure which of the different scenarios is the ideal course of action. The **Maximum Utility Model** determines the probability as the number of respondents predicted to choose the profile divided by the total number of respondents. For each respondent, the predicted choice is simply the profile with the largest total utility. The BTL (Bradley-Terry-Luce) model determines the probability as the ratio of a profile's utility to that for all simulation profiles, averaged across all respondents. The Logit Model is similar to BTL but uses the natural log of the utilities instead of the utilities.

Table 3. Scenario Analysis

Attribute	Utility Score	Maximum Utility	Bradley-Terry-Luce	Logit
Simulation 1 Excellent Quality of Education, Satisfactory Facilities, Average Faculty, Average Student Services, Not Conducive Campus Life, Strict Policies, and 16% to 20% increase in total fees	11.56	9.49%	29.84%	13.83%
Simulation 2 Fair Quality of Education, Superior Facilities, Outstanding Faculty, Outstanding Student Services, Not Conducive Campus Life, Strict Policies, 11% to 15% increase in total fees	11.36	19.77%	30.50%	20.07%
Simulation 3 Excellent Quality of Education, Satisfactory Facilities, Outstanding Faculty, Average Student Services, Conducive Campus Life, Flexible Policies, and 11% to 15% increase in total fees	14.92	70.74%	39.66%	66.10%

Based on the result of the simulation, the highest total utility is observed for simulation 3 with a total utility of 14.92. This particular simulation includes an excellent quality of education, a satisfactory level facilities, outstanding faculty, average student services, conducive campus life, flexible policies, and 11% to 15% increase in total fees. Based on the three utility models, all picks simulation three as the best scenario simulated. Accordingly, as compared to the other scenarios this particular simulation shows the winning combination of excellent quality education and outstanding faculty while keeping the increase in fees by 11% to 15%.

Perception on Level of UC's Performance on Important Retention/Attrition actors
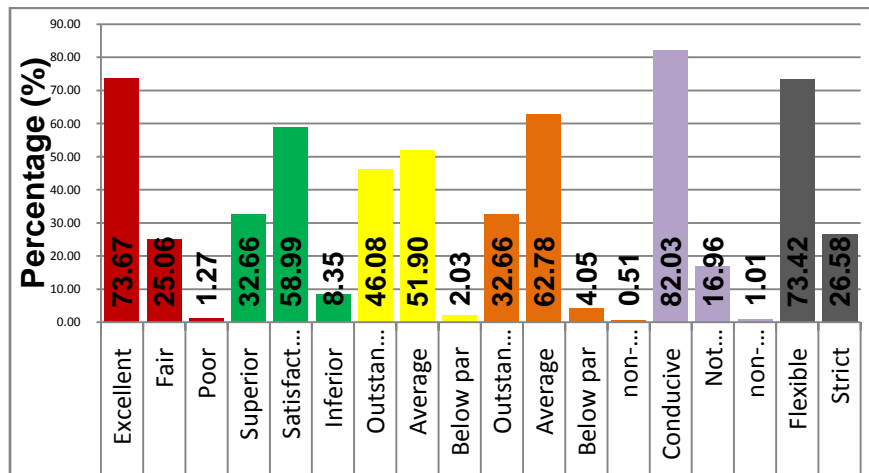

Figure 3. Perception on Level of UC's Performance on

Figure 3 displays the assessment of the students on the level of performance of the University in terms of the important factors that affect students' retention/attrition. Six out of seven important factors given by students were considered in the evaluation. Increase in total fees was not included since these are beyond the scope of the students' control. Furthermore, an important source of insight to better understand the students' assessment and perception is to understand the operational definition that they are using to assess the different levels of the important attributes. For this purpose, an open ended question was used and analyzed in order to know the thought process of students.

Important Retention/Attrition Factors

Quality of Education. Results show that most students (73.67%) perceive the University as having an excellent level of quality education. However, 1 out 4 (25.06%) students perceived the quality of education in UC to be 'Fair'. As was shown by the conjoint result, this area is the most critical in terms of the students' decision to stay or leave the University. It is important that this substantial proportion of the students be given a reason to perceive an excellent quality of education in the University. More importantly, the result of the thematic analysis of the students' open-ended question provides a good understanding as to the basis of their assessment in terms of quality of education. Accordingly the following key results were observed:

The top two responses of students reveal that the experience inside the classroom in terms of quality of instruction and faculty is the main determinant of quality of education for the students. This is contrary to the understanding of quality of education among education managers where emphasis is given to track record of the university over the classroom experience. Accordingly, it is necessary for the classroom experience of the students to be positive in order for the quality of education to be perceived as excellent. Track record of the university is also an important factor in the definition of quality education; however, this is secondary to the classroom experience as shown in the results.

Quality of Facilities. In terms of facilities, majority of the students assess the university to have a satisfactory (58.99) level of facilities. However, 1 out of 3 (32.66%) students believes that the University has a superior level of facilities. In terms of the students' basis for the evaluation of the facilities of the university, the thematic analysis reveals salient points which include their experiences of using facilities and ease of access.

Students based their understanding of the quality of facilities in terms of their experience not on the over-all facilities provided by the University. This includes the equipment being used in the classroom like projectors and computers in the laboratory that they were able to use. This means that even though the university has state of the art equipment available, as long as the students are not able to use it, it does not become a basis of their perception of the facilities of the University.

The ease of access on the facilities of the university is another major consideration in the evaluation of the students on the quality of facilities of the University. Some students also pointed out that accessibility is a vital in determining importance.

Quality of Faculty Members. In terms of quality of faculty, the result shows that students are divided almost equally between average (51.90%) and outstanding (46.08%) with only a few (2.03%) saying that the quality of faculty as being below par. It is very insightful to understand the thought process involve in the evaluation process of the students. The thematic analysis result shows that the major considerations of the students in terms of quality of faculty are on most cases based on mastery and delivery of subject matter. In particular, mastery and delivery of subject matter were the foremost reasons given by students in their evaluation of whether the faculty is outstanding or not. This however, does not merely measure the knowledge of the teacher about the subject matter but has more to do about the delivery of the lessons in a perceived intelligent and masterful manner.

Another major consideration of the students is the affective domain of the faculty in their teaching. This includes understanding students, and spending time outside the classroom in order to facilitate understanding of lessons and going beyond the lessons.

Over-all, a synthesis of the result and insights taken from the different areas of the research undertaking reveals that the most important factor considered by students in their retention/attrition decision is the perceived quality of education provided by the university. Nevertheless, the University must balance these with an acceptable level of increase in total school fees and ensure that the quality of faculty is always high.

University Attrition and Retention

In choosing where the student enrolls in college, parents' decision is usually followed. But deciding to

_____

leave the university is often the choice the student makes. The different reasons for departure boil down to two categories: 1) Voluntary (student decision), and, 2) Involuntary (poor academic [and/or attendance] performance) (Tinto, 1994). On the other hand, a student may decide to stay in the university because of positive experience from the school, he is proud as a student of the university because of the reputation and have an excellent quality education as compared with other HEIs. Moreover, qualified and excellent teachers or instructors are employed in the university. Tinto further explains that the key to effective retention lies in a strong commitment to quality education, excellent faculty members and the building of a strong sense on inclusive educational and social community campus (Tinto, 1994).

Raisman (2013) discussed four major reasons why there is high attrition in college: (1) College does not care; (2) Poor service and treatment; (3) Not worth it; and (4) Schedule (subjects needed are not available). Sohail, Rajadurai, & Rahman, (2003) new applicants with lower marketing costs are attracted through positive word of mouth being made by highly satisfied customers (students). In the Cordillera region, HEIs puts effort to provide and maintain quality services to its students in order to develop and maintain their reputation.

To achieve a relevant student satisfaction assessment, HEI support facilities are important (Wiers *et al*., 2002). As a result of highly competitive marketplace, service quality and customer satisfaction became without any doubt the two basic concepts that are at the core of the marketing theory and practice. As argued by Gao and Wei (2004), the key to sustainable competitive advantage lays in delivering high quality of service, which in turn result to customer satisfaction. Hence, it is imperative for institutions to interweave facilities and service to attain high customer service and satisfaction.

Other factors that importantly affect retention are financial aid and scholarships (Schuh, 1999; Braunstein, McGrath, & Pescatrice, 2000). These depend on the size of a scholarship award as well as available financial aid, resulting to positive relationships with retention rates (Schuh, 1999). Another factor that affects the attrition/ retention rate in a university is the efficacy of the student service interventions (e.g., effectiveness of freshmen and transferees orientation). Hoyt and Lundell (n.d.) mentioned in their literature review that longitudinal studies on student service interventions have even shown increased retention rates using this model (Boudreau & Kromrey, 1994; Stark, Harth, &

Sirianni, 2001; Williford, Chapman, & Kahrig, 2001; Yockey & George, 1998). It is in this light that the present study can contribute to the study on consumer behavior in higher education institutions through its methodological and practical implications as shown in this paper.

V. CONCLUSIONS AND RECOMMENDATIONS

To properly gauge students' decisions to stay or leave a university, it is important to look at the factors affecting this decision. In this present study, a description of attributes and utilities were formed and given by students, and at the same time these attributes and utilities were measured by the researchers using conjoint analysis. With this, Quality of Education has been pointed out as the most important factor considered by the students in their decision to stay or leave the University. Nevertheless, both Quality of Faculty and Increase in Total Fees are also significant factors in the decision making process of the students.

Excellent level of quality education provides the highest positive utility contributing to the retention of the students in the University while the highest negative utility contributing to the attrition in the University is observed on the 16% to 20% increase in Total Fees. In addition, a good combination of excellent quality of education and outstanding quality of faculty is required to have the most ideal condition for retention. This combination is able to justify even though an increase of 11% to 15% is present.

Majority of the students perceived that the University has an excellent level of education; however, a significant proportion still perceives the University as having an average level of quality of education. Majority of the students assess the university to have a satisfactory level of facilities. In terms of quality of faculty, the result shows that students are divided almost equally between average and outstanding level of quality of faculty. This, then, adds to the response that the classroom experience is the most important source of the students' evaluation of whether or not the quality of education is excellent or not. The track record of the university is also important but not as important as the experience inside the classroom. In terms of facilities, what are most important to students are the facilities that are accessible to them and the ease of accessing the different facilities in the University. In terms of quality of faculty, mastery and delivery of faculty is the most important consideration followed by the faculty's empathy towards the students. These conclusions and findings were extracted from the respondents by making use of conjoint analysis by

_____

employing it in studying the students' behavior, needs, and attitude as consumers towards an approach to management and marketing of an HEI.

With the aforementioned conclusions the researchers recommend that communicating and emphasizing the HEI's excellent quality education should be considered as the topmost strategy. Based on the insight provided by the thematic analysis it is highly recommended that faculty members must become the "Brand Ambassadors of the University," as it was found that what happens inside the classroom is the most influential source of the students' definition of what quality education is. Furthermore it is also highly recommended that Brand Management of the Institution by highlighting schools track record of accomplishments (e.g. Board Exam Results, Topnotchers, Accreditation Status, etc.) be implemented. Additionally, Internal Marketing Strategy (put in front of students' information about the school's achievements) is highly recommended. Furthermore, the faculty being the brand ambassador of the university must be supported in order to increase their level of mastery and delivery of the lesson given to students to support the image of the University as having an excellent level of quality of education. Nevertheless, empathy among faculty must be emphasized and as much as possible be required in order to build over-all image of the university. An example is an emphasis and strict implementation of the consultation hour among faculty with their students.

To address the limitations of this present study, further studies using conjoint analysis in other areas of the educational domain is highly recommended. Conjoint analysis is a very flexible methodology takes on other forms and procedures. It is recommended that other types of conjoint analysis be used in studies similar to the research undertaken. The card shuffle technique of collecting data for the conjoint analysis was used in this study and it is recommended that rating technique or other forms of eliciting data be used in similar studies.

REFERENCES

AAHE-ERIC. (1982, March). AAHE-ERIC/Higher Education Research Report, 11(3), 35–44

Ascend Learning, LLC. (2012). Student attrition: Consequences, contributing factors, and remedies.

Banoglu, K. (2012). Using conjoint analysis to examine academic members' course preferences for educational administration, supervision, planning and economics master's program. *Cypriot Journal of Educational Sciences, 7*(2), 111-128.

Barnes, M., Chan-Halbrendt, C., Zhang, Q., & Abejon, N. (2011). Consumer Preference and Willingness to Pay for Non-Plastic Food Containers in Honolulu, USA. *Journal of Environmental Protection (2)*, 1264-1273.

Bean, J. (1990). *Using Retention Management in Enrollment Management*. San Francisco: Jossey Bass

Bridges, J. F., Lataille, A. T., Buttorff, C., White, S., & Niparko, J. K. (2012). Consumer Preferences for Hearing Aid Attributes: A Comparison of Rating and Conjoint Analysis Methods. *Trends in Amplification*, 40-48.

Braunstein, A., McGrath, M., and Pescatrice, D. (2000). Measuring the impact of financial factors on college persistence. *Journal of College Student Retention, 2*(3), 191-203.

Carneiro, J. d., Minim, V. P., Silva, C. H., Regazzi, A. J., Chaves, J. B., & Minim, L. A. (2012). Sugarcane spirit market share simulation: an application of conjoint analysis. *Ciência e Tecnologia de Alimentos 32*(4), 645-652.

Ceylan, H. H. (2013). Market Segmentation Based on Benefit in Retail Sector by Using Conjoint Analysis. *Yönetim ve Ekonomi 20/1*, 141-154.

Chen, X. (2013). STEM attrition: College students' paths into and out of STEM fields (NCES 2014-001). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Clark, S.B. & Crawfor, S.L. 1992. An Analysis of African-American First-Year College Student Attitudes and Attrition Rates. *Urban Education, 27*(1), 59-79. DOI: 10.1177/0042085992027001006

Dağhan, G., & Akkoyunlu, B. (2012). An examination through conjoint analysis of the preferences of students concerning online learning environments

according to their learning styles. *International Education Studies, 5*(4), 122-138.

Diamond, J. J., Ruth, D. H., Markham, F. W., Rabinowitz, H. K., & Rosenthal, M. P. (1994). Specialty selections of jefferson medical college students: A conjoint analysis. *Evaluation & the Health Professions 17*, 322-328.

Dirkx, J.M. & Jha, L.R. 1994. Completion and attrition in adult basic education: A test of two pragmatic prediction models. *Adult Education Quarterly, 45*(1), 269-285. DOI: 10.1177/0741713694045001002

Eylem, D. A., Sevil, B., & Gülay, K. (2007). Adaptive conjoint analysis and an application on Istanbul. *Doğuş Üniversitesi Dergisi, 8* (1), 1-11.

Goossens, A., Bossuyt, P. M., & de Haan, R. J. (2008). Physicians and nurses focus on different aspects of guidelines when deciding whether to adopt them: an application of conjoint analysis. *Medical Decision Making 28*, 138-145.

Greenland, S.J., & Moore, C. (2014). Patterns of online student enrolment and attrition in Australian open access online education: a preliminary case study. *Open Praxis, 6*(1). http://dx.doi.org/10.5944/openpraxis.6.1.95

Grünwald, O. (2012). Model of Customer Buying Behavior in the CZ Mobile Telecommunication Market. *Acta Polytechnica, 52*(5), 42-50.

Hermanowicz, J.C. (2004). The College Departure Process among the Academic Elite. *Education and Urban Society, 37*, 74-93. DOI: 10.1177/0013124504268069.

Hondori, B. J., Javanshir, H., & Rabani, Y. (2013). Customer preferences using conjoint analysis: A case study of auto industry. *Management Science Letters 3*, 2577–2580.

Hoyt, J.E. & Lundell, M. (n.d.). The Effect of Risk Factors and Student Service Interventions on College Retention. Retrieved from http://www.uvu.edu/iri/documents/surveys_and_studies/Retentionwriteup.pdf

Hu, C., & Hiemstra, S. J. (1996). Hybrid conjoint analysis as a research technique to measure meeting planners' preferences in hotel selection. *Journal of Travel Research 25*, 62-69.

Kurtović, E., Čičić, M., & Agić, E. (2008). Application of conjoint analysis in studying demand for MP3 players on the B-H market. *Tržište/Market, 20*(1), 25-36.

Kusumawati, A. (2011). Understanding student choice criteria for selecting an indonesian public university:

A conjoint analysis approach. *SBS HDR Student Conference*, 1-14.

Kwadzo, G. T.-M., Dadzie, F., Osei-Asare, Y. B., & Kuwornu, J. K. (2013). Consumer preference for broiler meat in Ghana: A conjoint analysis approach. *International Journal of Marketing Studies, 5*(2), 66-73.

Latif, L.A., Sungsri, S., & Bahroom, R. (2009). Managing Retention in ODL Institutions: A Case Study on Open University Malaysia and Sukhothai Thammathirat Open University. *ASEAN Journal of Open and Distance Learning, 1*(1), 1-10.

Lee, S. J., Newman, P. A., Comulada, W. S., Cunningham, W. E., & Duan, N. (2012). Use of conjoint analysis to assess HIV vaccine acceptability: feasibility of an innovation in the assessment of consumer health-care preferences. *International Journal of STD & AIDS*, 235–241.

Lenning, O. (1980) Retention and attrition: Evidence for action. Boulder, Colorado: NCHEMS.

Lopes, S. D. (2012). Post hoc segmentation combining conjoint analysis and a two-stage cluster analysis. *African Journal of Business Management, 6*(1), 169-176.

Nava, F.J.G. (2009, December). Factors in school leaving: Variations across gender groups, school levels and locations. *Education Quarterly, 67*(1), 62-78.

Nazari, M., & Elahi, M. (2012). A study of consumer preferences for higher education institutes in Tehran through conjoint analysis. *Journal of Management Research, 4*(1), 1-10.

Orme, B. (2010). *Getting started with conjoint analysis: strategies for product Second Edition.* Wisconsin: Research Publishers LLC.

Perin, D. & Greenberg, D. (1994). Understanding dropout in an urban worker education program: Retention patterns, demographics, student perceptions, and reasons given for early departure. *Urban Education, 29*, 169-187. DOI: 10.1177/0042085994029002004

Quigley, B.A. (1992). The disappearing student: The attrition problem in adult basic education. *Adult Learning 4*, 25-31. DOI: 10.1177/104515959200400110

Raisman, N. (2013, February). The cost of college attrition at four-year colleges and universities. Policy Perspectives. Educational Policy Institute. Retrieved from http://www.educationalpolicy.org/pdf/1302_PolicyPerspectives.pdf

Ring, A., Dickinger, A., & Wöber, K. (2009). Designing the ideal undergraduate program in tourism: Expectations from industry and educators. *Journal of Travel Research, 48*, 106-121.

Sanza B. Clark and Sandie L. Crawford. (1992). An Analysis of African-American First-Year College Student Attitudes and Attrition Rates. *Urban Education, 27*, 59. DOI: 10.1177/0042085992027001006

Schnettler, B. (2012). Consumer preferences of genetically modified foods of vegetal and animal origin in Chile. *Ciência e Tecnologia de Alimentos 32*(1), 15-25.

Schuh, J. H. (1999). Examining the effects of scholarships on retention in a fine arts college. *Journal College Student Retention, 1*(3), 193-202

Stadtman, V. A. (1980). *Academic adaptations: Higher education prepares for the 1980s and 1990s.* San Francisco, California: Jossey-Bass, Inc.

Stillman, M. (n.d.). Making the case for the importance of student retention. Retrieved from http://www.pacrao.org/docs/resources/writersteam/S tillmanMakingTheCaseForStudentRetention.pdf

Street, H. (2010). Factors influencing a learner's decision to drop-out or persist in higher education distance learning. *Online Journal of Distance Learning Administration, 8*(4). Retrieved from http://www.westga.edu/~distance/ojdla/winter134/str eet134.html

Szeinrach, S. L., Barnes, J. H., McGhan, W. F., Murawski, M. M., & Corey, R. (1999). Using conjoint analysis to evaluate health state preferences. *Drug Information Journal, 33*, 849-858.

Tinto,V. (1994). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: Univ. of Chicago Press.

Tripathi, S. N., & Siddiqui, M. H. (2010). An empirical study of tourist preferences using conjoint analysis. *International Journal of Business Science and Applied Management, 5*(2), 1-16.

Urban, B. &. (2013). Employee perceptions of risks and rewards in terms ofcorporate entrepreneurship participation. *SA Journal of Industrial Psychology 39(1)*, 1-13.

Van Houtven, G., Johnson, F. R., Kilambi, V., & Hauber, A. B. (2011). Eliciting benefit-risk preferences and probability-weighted utility using choice-format conjoint analysis. *Medical Decision Making, 31*, 469-480.

Wiers, J., Stensaker, B. & Grogaard, J. B. (2002). Student satisfaction towards an empirical deconstruction of the concept. *Quality in Higher Education, 8*(2), 183-195.

Zardari, N. U., & Cordery, I. (2012). Determining Irrigators Preferences for Water Allocation Criteria Using Conjoint Analysis. *Journal of Water Resource and Protection, 4*, 249-255.