Original Article

Factors Influencing Students' Satisfaction in Oxford College of Engineering and Management, Gaindakot-2, Nawalpur of Nepal.

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Abstract

The objective of this study was to examine the students' recommendation to their kith and kin to enrol at Oxford College of Engineering and Management (OCEM) for the higher education study. The previous studies reveal that students' satisfaction was embedded in collage physical facilities, administrative facilities, program quality, quality of academic staff, location of college and reputation of colleges. Quantitative research approach was used as research methodology and the survey study was use as research method applied to collect data from the respondents. The sampling methods was first purpsive and the second was random sampling method. Two hundred and thirty seven respondents (n=237) were participated in this study. The response rate of the survey questionnaire was 94.8 %. The reliability analysis was used to find the value of Cronbach's Alpha in order to find out the reliability and consistency of the data. Twelve subscales were extracted from the variables of each Principal Component. Similarly, Student t-Test was used to find the differences in boys and girls for their recommendation to enrol their kith and kin at OCEM, Nawalpur of Nepal. Fifty seven male (24 %) and one hundred and eighty female (76 %) students were participated in this study. The results highlighted that female students were more satisfied than the male students at OCEM.

The results aslo show that strict student development schedule was positively and statistically significantly associated with the preference of students' recommendation to enrol their kith and kin at OCEM ($p < 0.05$, B = .486). Similarly, the results further show that physical facilities of OCEM was positively and statistically significantly associated to students' preference to recommend their kith and kin to enrol at OCEM ($p < 0.05$. B = 1.038). The results of Multiple Regression Analysis also highlighted that there is significance association between students' preference and locations of the college. The implications of the findings will be beneficial for the private and public colleges to understand the reason behind the declining trends of students' enrolment at Chitwan and Nawalparasi Districts. It will be also fruitful for the policy makers of higher educational institutions to formulate new student friendly strategies and student motivation policies.

Keywords: *Student satisfaction, physical facilities, academic qualities, administrative facilities, location and reputation of the college, extracurricular activities, Principal Component Analysis*

Introduction

All the college level organizations have been facing the challenges of student's retention globally. This has increased in recent years as the participation in higher education has increased significantly and

diversified (Mihanović, Batinić & Pavičić, 2016). A certain percentage of students will be always expected to drop out of colleges but an effort has to be made to minimize it (Meling, Kupczynski, Mundy & Green, 2012). In today's global world, economic growth depends on the capacity to produce knowledge, and higher education institutions are key role players in developing a knowledge-based economy. Students need to learn more in less time, and quality has become increasingly important issue in higher educational institutions (Sweeney, 2016). It is obvious that good performance could make students more satisfied with their study experience, thus improving their acquired knowledge and career development (Bassi, 2019). Consequently, more effective degree courses at colleges may attract more motivated students and receive increased funding from the government and other institutional lenders, with the result of improving their competitive position (Langstrand, Cronemyr & Poksinska, 2014). To satisfy this requirement, it is important to modify and make more effective organisation and contents of teaching activities, as well as to offer adequate services to students (Bassi, 2019). An important concern for private colleges and public colleges is retaining students and understanding the reasons why students of different programs choose to leave a programme (Gibson, 2010). Additionally, college education is considered an essential means for the social, economic and political development of a country (Hussein & Bahmani 2012). The right to access higher education is mentioned in a number of international human rights agreements; it should be the responsibility of governments and educational service providers to ensure broad access and high standards of quality of the educational training processes in each and every college (Langstrand et al., 2014).

More specifically, colleges should achieve high standards of quality in teaching, research, administrative services and available facilities to pursue their mission better in future. In most cases, good quality is synonymous with good performance even though the definition of quality in colleges' context is quite complex and challenging (Pounder 1999). Student satisfaction is deeply rooted in academic, managerial, infrastructure and technological factors in educational institutions. Student satisfaction is also embedded in the current status of college surrounding, lecturers' educational qualification, teaching pedagogy, placement practices, students' support systems, faculty support, roles of faculty head; roles of principal and library and lab facilities (Uprety & Chhetri, 2014). College education is considered as the essential means for the social, economic and political development of a country. The right to access higher education is mentioned in a number of international human rights agreements; it should be the responsibility of governments and educational service providers to ensure broad access and high standards of quality of the training processes in college level education (Moller, 2006). More specifically, colleges should achieve high standards of quality in teaching, research, administrative services and available facilities to pursue their mission better. Good performance could make students more satisfied with their study experience, thus improving their acquired knowledge and college career. The primary objective of this study was to examine the students' preference to recommend their kith and kin to study at private colleges and the preference of students to continue their higher education at private colleges in Nawalpur District of Nepal. The secondary objectives of this study was to examine students' satisfaction on managerial factor; support service factor; administrative factor; infrastructure factor on students' preference to recommend for their kith and kin (Chen, 2014). Student satisfaction is a highly debatable global phenomenon in educational sector. The rate of high student turn-over is a serious problem at

private and public colleges in Nepal. A large number of students exist from Nepal to foreign countries. There is always fluctuation in student enrollment in colleges due to student's dissatisfaction on academic; managerial; organizational; infrastructure factors, location and reputation of colleges. Students have been treated as customers since a long time ago but their satisfaction level is very poor and debatable. Due to the lack of student satisfaction in different colleges, student turnover has been regarded as a big threat for educational practitioners in Nepal. It is also true that student dissatisfaction directly impacts for both quality of education and college financial situation by which students' enrollment trends have gone down in most of the colleges (Douglas, Douglas & Barnes, 2006). The declining trends of students along with the biggest number of higher education institutions changed the intensity of competition among colleges in Nepal and attracted much more attention to marketing efforts, which was so far highly neglected particularly by Nepalese public institutions (Sojkin, Bartkowiak & Skuza, 2011). Students are seeking for the student centered learning pedagogy, lifelong skills and international standard education in our colleges but the current outcomes are just embedded in securing high marks without focusing on delivering lifelong skills to our students (Uprety & Chhetri, 2014). .

1. Satisfaction:

The financial anxiety, low quality of lecturers and weak teaching practices, traditional organizational managerial practices, a lack of student involvement in college decision making practices, limited learning resources, poor service facilities, and high priority in theoretical education and less priority in lifelong skills have undermined the student preference to recommend their kith and kin and to continue their higher level education in the same colleges in Nepal (Uprety & Chhetri, 2014). Student satisfaction level has become a major focus of academic practitioners and researchers in the competitive learning environment owing to its strong impact on the success of educational institutes and prospective student registration since the past few decades (Langstrand, Cronemyr & Poksinska, 2014; Weerasinghe & Fernando, 2018). More specifically, colleges should accomplish high standards of quality in teaching, research, administrative services and available facilities to pursue their mission to meet the contemporary demands of students (Bini & Masserini, 2015).

1.1 Customer Satisfaction:

The word "satisfaction" is defined by Uprety and Chhetri (2014) as a state of feeling of a person who has experienced performance or an outcome that fulfils his/her expectation. In terms of students, expectation may go as far as before the students even enter the higher education, suggesting that it is important to the educational practitioners to determine first what the students expect before entering the colleges. It is believed that satisfaction actually covers the issues of students" perception and experiences during the college years. It is considered that student satisfaction is a match between what students expect while entering colleges, and perception and experiences they develop during the college years (Carey, Cambiano, & De Vore, 2002). While most studies on satisfaction focus on the perspective of customers and researchers who are facing a problem of creating a standard definition for student satisfaction. Thus providing a need of customer satisfaction theory to be selected and modified so that it can explain the exact meaning of student satisfaction (Hom, 2002). Similarly, William (2002) mentioned that even

though it is arguable to view students as customers, but given the current atmosphere of higher education marketplace, there is a new moral privilege that students have become "customers" and therefore can, as fee payers, reasonably demand that their views should be heard and acted upon so as this study considers students as "customers" (Weerasinghe & Fernando, 2018).

1.2 Student Satisfaction

Retention is a big challenge for all the higher education institutions, especially among the first with more than half of students that drop out doing so in their first year. Many students who endeavour to earn a college degree fail to continue until graduation. Therefore, an effort should be made to keep this dropping trends to a minimum extent (Mukhtar, Ahmed, Anwar & Baloch, 2015). The level of student satisfaction in educational contexts can be defined as a short-term attitude based on students' educational experiences. "Satisfaction in education is a positive originator of student loyalty to institutions and also is an outcome of a successful educational system. Thus, student satisfaction levels can be defined as a function of the relative perceived levels of the quality of experiences and higher educational institutions' performance in providing educational services (Sojkin, Bartkowiak & Skuza, 2011). Elliott and Healy (2001) mentioned that "A short-term attitude resulting from an evaluation of a students' educational experience is generally accepted as student satisfaction. Student satisfaction results when actual performance meets or exceeds the students' expectations" (p.8). Student satisfaction is defined as multi-dimensional and depended on the clarity of student goals as reported by (Mihanović, Batinić & Pavičić, 2016). They further found that satisfaction was significantly influenced by trust. Educational practitioners of higher education can build trust by treating students in a consistent and equitable manner, meeting and handling their expectations and complaints in a caring manner. Bassi (2019) concluded that perceived quality of an educational experience is a consequence of student satisfaction. By analyzing the earlier mentioned definitions of student's satisfaction reveal that understanding the contemporary expectations and demands of students almostly signifies the definition of student satisfaction.

2. The current study

The current study explores the complex phenomenon of student preference to recommend their kith and kin for the enrollment at OCEM. As main starting point, the study puts forward the idea that the moment at which students prefer not to enroll their kith and kin may have an important impact on their motives for quitting from OCEM. In addition, gender and types of enrollment stream, educational level, family income, religions and collage location are incorporated as control variables. The following research questions are guided my investigation:

(1)   Does the student satisfaction (preference) vary according to personal variables, such having actual experience with academic factors or not, gender, family income, and collage location?

(2)   What motives do existing students at OCEM have for their preference to recommend their kith and kin?

(3)   Do the satisfaction and preference differ according to whether or not existing students have in academic, managerial, physical and infrastructure factors and does this distinction remain after controlling for other personal variables (gender, location, family monthly income and college location).

3. Methods

To answer the research questions mentioned in the section 2, a large-scale survey study was conducted in OCEM Gaindakot-2, Nawalpur. OCEM instead of the whole colleges of Nawalpur was chosen as the collage of investigation as the authority for students' preference to recommend their kith and kin with the regional college not with the national colleges. Given the fact, reginal facilities on academic, managerial, psychical and infrastructure condition differ and that these differences might influence students' preferences to recommend their kith and kin, I opted to include only Signal College (OCEM).

3.1 Sample

Given the differences in enrolment, duration of the study and orientation of the aforementioned students satisfaction for academic, managerial, psychical and infrastructure facilities, I opted to investigate students experiences, satisfaction and preference for the recommendation to their kith and kin in a signal program (BBA). As the majority of the students enrolled in four years (BBA program affiliated with Pokhara University), I conducted my study in this program.

For the purpose of the current study, it was necessary to reach both students who have just commenced their BBA and those students who already completed their BBA at OCEM. All the students from different semesters were invited to participate in the study by providing contact information on students who had successfully completed their BBA from OCEM. In total students of eight different semesters agreed to participate in the study. Enrollment in these semesters was 35 to 40 students in each semester. Participants per semester (first, second, third, fourth, fifth, sixth, seventh and eighth) ranged 30 to 45 students. Out of two hundred and thirteen respondents, fifty seven (n=57) respondent was male and one hundred and eighty (n=180) respondents was female. The response rate of the survey instrument was 94.8 % [237/250x100]. The Cronbach's Alpha was computed to check the reliability of the data (see in the Table 2).

3.2 Instruments

Information on the personal variables gender, location of the college, family monthly incomes of the students and religions was obtained through the student administration of the participating collage (OCEM). To gain insight into students' satisfaction and preference for existing students and graduated students, the seven questionnaires were developed. Existing literature was reviewed for students;' satisfaction and preference to recommend their kith and kin. To design the instrument as broadly as possible, no single model or theoretical framework (students satisfaction, expectations, perceive quality, student loyalty) was used as reference. Instead all possible motives were inventoried. The resulting instrument was piloted with tem graduated BBA students who did not study anymore to check our face-validity and possible missing motives of students. For each motive, respondents had to indicate on a five-point scale whether the reason had ranged from completely disagreed to completely agree.

3.3. Analysis

Previous study has sometimes relied heavily on single-item indicators of students' satisfaction and preference or raw frequency counts of motives. This approach maximizes the possibility of measurement error (e.g. Watt & Richardson, 2007). To construct this caveat, I choose to work with more encompassing

constructs, measured by multiple items. To identify these underlying themes in my questionnaire, a Principal Component Analysis (PCA) was run. Subsequently, an Exploratory Factor Analysis (EFA) with Varimax rotation was carried out to refine and interpret these components. Eigenvalues, the scree plot and theoretical interpretability were used to make a decision on the number of factors. A factor loading of at least [0.40] was taken as cut-off point to incorporate a specific item as an indicator for an understanding motive. To explore the relation between students' preference and personal variables (RQ1), descriptive statistics and cross tabulations were computed. Descriptive statistics were also computed to analyze students' motives (preferences) for the recommendation to enroll at OCEM (RQ2). To explore the effect of having actual college's facilities experience after graduation on preference for the recommendation after controlling for gender and different college locations, family income levels and different religions of the students (RQ3), a stepwise strategy was followed. First a Binary Logistic Regression Model was computed to assess the impact of the predictor and control variables on all motives. Both significant levels and effective sizes were considered using Cohen's d cut-off points (Cohen, 1998). The next, the Chi-square Test and Student t-Test was computed to examine the association between two variables measured on categorical scales (Pandya, Bulsari & Sinha, 2018).

4. Results
4.1. Preliminary analyses: subscales with mean, SD, reliabilities and p values
Mean calculation was carried out for an analysis tool because all the variables are in the normal distributions and also variables are in order. Again, the distribution of variables has been well studied and is well understood (e.g. normally distributed). The data analysis was carried out to compare the values of mean, SD, Cronbach's Alpha and p values of the twelve subscales. The subscales were categorized into three groups which is 2.00 to 2.50 as the first group, 2.50 to 3.00 as the second group and 3.00 to 3.50 as the third group respectively (see in the Table 2).

Table 2. Descriptive statistical analysis on academic factors on student's satisfaction (N=237).

Scales	Mean	SD	Cronbach's Alpha	p values
Classroom facilities	2.04	0.64	0.71	.594
Faculty support for maintaining quality	2.13	0.82	0.75	.031
Technological facilities	2.29	0.75	0.70	.049
Physical facilities	2.32	0.74	0.70	.163
Emphasis on punctuality	2.35	.81	0.71	.396
Health and safety issues	2.43	0.91	0.70	.656
Using technology in teaching and learning activities	2.47	0.77	0.72	.603
Emphasis on quality of extracurricular activities	2.58	0.69	0.73	.881
Strict nature of principal	2.81	1.11	0.80	.001
Strict students' career development schedule	2.92	0.90	0.71	.927
Availability of teaching resources	3.12	1.33	0.81	.794
Canteen services	3.33	1.20	0.80	.026

The mean value of the first subscale "classroom facilities" had been calculated as 2.04 signifying that students were disagreed with the statements that they had sufficient furniture, the class room were well

ventilated, they had sufficient light and their classrooms had sufficient place at OCEM. Similarly, the mean value of the second subscale "faculty support for maintaining quality" had been calculated as 2.13 signifying that students had showed their disagreement with the statements that the overall coordinator were always concerned about their issues, to solve my problem on time, to listen about their problems and their .their principal had motivated them to secure high marks in the final exam. The third subscale "technological issues" had been calculated as 2.29 signifying that students somehow disagreed and somehow undecided with the statements that their classroom were seasonally equipped to bear outsider heat and cold, the classrooms were well technologically equipped and the administrative buildings were well equipped in their college. Again, the mean value of the fourth subscale "physical facilities" had been calculated as 2.32 signifying that students were disagreed with the statements that the canteen of OCEM was hygienic, all books had been available which they needed during their study period, the transport system was comfortable, the parking space was sufficient and the lab facilitators were helpful to support them. Furthermore, the mean value of the fifth subscale "emphasis on punctuality" had been calculated as 2.35 signifying that students showed their disagreement with the statements that the faculty members were capable to manage time, .the faculty heads were available all the time when they required to complete their courses and .the faculty members were able to create positive learning environment in their college. Again, the sixth subscale "health and safety issue" had been calculated as 2.43 signifying that students were somehow disagreed and somehow undecided with the statements that number of rest rooms were sufficient, they had safe drinking water and water facility was sufficient in their college. Again the seventh subscale "using technology in teaching and learning activities" had been calculated as 2.47 signifying that students were somehow disagreed and somehow undecided with the statements that lecturers were cooperative, modern technology had been used in teaching.

Students were also somehow found undecided and somehow dissatisfied with the current learning activities and the technology used in the classrooms of OCEM. Moreover, the mean value of the eighth subscale" emphasis on the quality of extracurricular activities" had been calculated 2.58 signifying that students were approximately close to neither disagreed nor agreed with the statements that of the co-curricular activities were compulsory, board members of the BBA were strict, extracurricular activities were sufficient and they had learnt practical skills in their college. Again, the mean value of the ninth subscale "strict roles of principal" had been calculated as 2.81 signifying that students had been seen undecided for the statements that their principal was rational to make managerial decision, helpful and focus on academic quality. Similarly, the mean value of the tenth subscale "strict career development schedule" had been calculated as 2.92 signifying that students were exactly neither agreed nor disagreed with the statements that internal exams had been run matching with predetermined schedule of the examination, undecided on students' future grooming career path at OCEM and they were also undecided for the availability of interactive learning environment in their college. The mean value of the eleventh subscale "teaching resources" had been calculated as 3.12 signifying that students were mostly undecided and somehow agreed with the statements that they had sufficient computers in lab and library facilities were available on time in OCEM. Finally, the mean value of the eleventh subscale "canteen services" had been calculated as 3.33 signifying that students were agreed with the statements that the cost of food was reasonable and canteen's service was satisfactory at OCEM.

4.2. Relationship between students' preference personal variable gender

The first H_1 assumes equal variances and the second H_2 does not. The Levene's test decides which version of the t-test to report. If the Levene's test shows no significance violations of the assumption, we should report the "equal variances assumed" version of the t-test. Conversely, if the Levene's test shows significance violations of the assumption, we should report the "not equal variances assumed" version of the t-test (Pandya et al., 2018). I have set the null and alternative hypotheses for Levene's Test for equality of variances are as follows.

H_1: Variances of two groups are equal.

H_2: Variances of two groups are not equal.

The mean score of the male students of the first subscale classroom facilities (M = 2.04, SD = 0.75) is not statistically significantly differ [t (235) = 0.446, p = 0.594] than that of the female students on the same variable (M = 2.00, SD = 0.61). Similarly, the mean score of the male students of the second subscale faculty support for maintaining quality (M = 2.33, SD = 0.90) is statistically significantly higher [t (91.54) = 2.165, p = 0.031, Cohen's d = 0.31] than that of the female students on the same variable (M = 2.07, SD = 0.77), signifying that male students had higher preference to recommend their kith and kin to enroll at OCEM which is minimums effect.. Again, the mean score of the male students of the third subscale technological facilities (M = 3.28, SD = 1.22) is statistically significantly higher [t (91.54) = 3.425, p = 0.001 than that of the female students on the same variable (M = 2.66, SD = 1.03, Cohen's d = 0.31) signifying that male students had seen more happy for the recommendation their kith and kin to join at OCEM which has medium effect on it. Similarly, the mean score of the male students of the fourth subscale physical facilities (M = 2.43, SD = 0.88) is not statistically significantly differ [t (235) = -1.398, p = 0.163)] than that of the female students on the same variable (M = 2.28, SD = 0.67). Again, the mean score of the male students of the fifth subscale emphasis on punctuality (M = 2.43, SD = 0.84) is not statistically significantly differ [t (235) = 0.851, p = 0.396] than that of the female students on the same variable (M = 2.32, SD = .81). Again, the mean score of the male students of the sixth subscale health facilities (M = 2.64, SD = 0.97) is statistically significantly lower [t (86.67) = 1.171, p = 0.04, Cohen's d = 0.29] than that of the female students on the same variable (M = 2.37, SD = 0.87), signifying that female students had higher preference to recommend their kith and kin to enroll at OCEM. Similarly, the mean score of the male students of the seventh subscale using technology in teaching and learning activities (M = 2.91, SD = 0.96) is not statistically significantly differ [t (235) =, p = 0.603) than that of the female students on the same variable (M = 2.92, SD = 0.89).

Again, the mean score of the male students of the eighth subscale emphasis on quality of extracurricular activities (M = 2.59, SD = 0.68) is not statistically significantly differ [t (235) = 0.150, p = 0.881] than that of the female students on the same variable (M = 2.58, SD = .70). Again, the mean score of the male students of the ninth subscale strict nature of principal (M = 3.28, SD = 1.22) is statistically significantly higher [t (82.94) = 3.428, p = 0.001, Cohen's d = 0.54] than that of the female students on the same variable (M = 2.66, SD = 1.03), signifying that male students had higher preference to recommend their kith and kin to enroll at OCEM which is minimum effect. Furthermore, the mean score of the male students of the tenth subscale strict students' career development (M = 2.91, SD = 0.96) is not statistically significantly differ [t (235) = -.092, p = 0.927] than that of the female students on the same variable (M

= 2.92, SD = 0.89). Similarly, the mean score of the male students of the eleventh subscale availability of teaching resources (M = 3.07, SD = 1.22) is not statistically significantly differ [t (234) = 0.262, p = 0.794] than that of the female students on the same variable (M = 3.07, SD = 1.37). Finally, the mean score of the male students of the twelvelth subscale canteen facilities (M = 3.00, SD = 1.13) is statistically significantly lower [t (235) = -.092, p = 0.927, Cohen's d = -.0. 37] than that of the female students on the same variable (M = 3.44, SD = 1.21), signifying that female students' preference to recommend their kith and kin to enroll l at OCEM which is minimum effect.

4.3. Results of Chi-square Test

Chi-square Test was carried out to examine the association or statistical independence between two or more variables measured on categorical scales. The null and alternative hypotheses for Chi-square test bare:

H_0: There is no association between the row (Gender) and column (Students' preference to enroll l at OCEM).

H_1: There is association between the row (Gender) and column (Students' preference to enroll l at OCEM).

Table 4. Chi-Square Test between gender and students' preference to recommend for the admission at OCEM.

Count: Do you recommend your kith and kin to join at OCEM to study?				
Gender		Options 1=Yes 2= No		
		Yeah	No	**Total**
	Male	36	21	57
	Female	153	27	180
Total		189	48	**237**

Crosstabulation of gender and options of the students' preference of recommendation to their kith and kin to join at OCEM shows that out of 57 male students, 36 intended to recommend their kith and kin and 21 did not intend to recommend their kith and kin to enroll at OCEM. Again, out of 180 female students, 153 intended to recommend their kith and kin to study at OCEM and 27 female students did not intend to recommend their kith and kin to study at OCEM. This shows that there is association between gender and students' preference for recommendation for the enrollment at the college where they are studying now.

Table 5. Chi-Square table of gander and students' recommendation preference

Particulars	Value	df	Asymptotic Signifi-cance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12.787[a]	1	.000		
Continuity Correction	11.471	1	.001		
Likelihood Ratio	11.645	1	.001		
Fisher's Exact Test				.001	.001
Linear-by-Linear Association	12.733	1	.000		
N of Valid Cases	237				

The table 4 provides that the value of Chi-Square is 11.471 and associated significance value is 0.001<0.05. Therefore, the hull hypothesis is rejected, and signifying that there is association between the gender and students' preference to recommend their kith and kin to study at OCEM.

Table 6 Chi-Square Test between gender and students' preference to continue their higher education at OCEM

Count: Do you continue your higher study at Oxford College of Engineering and Management?				
Gender		Options 1 = Yeah	2 = No	
		Yeah	No	**Total**
	Male	28	29	57
	Female	127	53	180
Total		155	82	**237**

Crosstabulation of Gender and options of the students' preference to continue their higher education at OCEM shows that out of 57 male students, 28 intended to continue their higher education at OCEM and 29 did not intend to continue their higher education at OCEM. Again, out of 180 female students, 127 intended to continue their higher education at OCEM and 53 female students did not intend to continue their higher education at OCEM. This shows that there is association between gender and students' preference to continue their higher education at OCEM.

Table 7. Chi-Square table of gander and students' preference to continue their higher education at OCEM

Particulars	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.788[a]	1	.004		
Continuity Correction	7.867	1	.003		
Likelihood Ratio	8.506	1	.002		
Fisher's Exact Test				.004	.003
Linear-by-Linear Association	8.751	1	.000		
N of Valid Cases	237				

a. 0 cells (0.0%) have expected count less than 5. b. Computed only for a 2x2 table

The Table 7 shows that the value of Chi-Square is 8.788 and associated significance value is 0.004<0.05. Therefore, the hull hypothesis is rejected, and signifying that there is association between the gender and students' preference to continue their higher education at private colleges.

4.4 Analysis of the significant indicators of Binary Logistic Regression Wholesome Model

The wholesome model of the Binary Logistic Regression was applied to find the indicators of student's recommendation to join their kith and kin at OCEM. It is a basic and commonly applied method of predictive analysis for examining whether a set of predictor variable does a good work in predicting an outcome (dependent variable) and which variables are significant predictors of the outcome variables or in what way they are indicated by the sign of the Beta estimates- impact on the outcome variable and its magnitude (Cohen et al, 2007). There were twelve basic measurement scales in quantitative result section, but only nine indicators were found significant for the students' satisfaction to recommendation their kith and kin to join at OCEM (see in the Table 3). Binary Logistic Regression Model also used to find the association between all significant independent variables and dependent variable, signifying the key indicators in the Wholesome Model.

Table 8 Significant indicators of Binary Logistic Regression Wholesome Model
Variables in the equation (n = 237)

Independent variables	B	S.E	Wald	df	Sig	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Emphasis on quality of extracurricular	-.220	.324	.462	1	..497	.802	.425	1.515
Strict student development schedule	.486	.241	4.052	1	.044	1.625	1.013	2.607
Better teaching environment	.510	.292	3.046	1	.081	1.664	.939	2.950
Strict nature of principal	.239	.194	1.525	1	.217	1.271	..869	1.858
Emphasis on punctuality	-.305	.286	1.138	1	.286	.737	.421	1.290
Requirement of high quality	.177	.255	.480	1	.488	1.193	.724	1.968
Physical facilities	1.038	.377	9.482	1	.002	2.822	1.458	5.463
Teaching resources	.074	.166	.202	1	.653	1.077	.779	1.490
Health issue	.260	.249	1.088	1	.297	1.297	.796	2.115
Consent	1.785	.228	61.361	1	.000	.001		

The Omnibus Tests [Chi-Square = 50.404, df = 9, p =.001] and associated significance level is less than 0.05, the present model shows a decrease in deviance from the base model because Chi-Square is positive, showing this model is better fit compared the base model. The model summary table shows the values of -2Log Likehood (187.987), Cox and Snell R^2 and Nagelkerke R^2 [19.20 % (Cox and Snell) and 30.20 % (Nagelkerke)] variance of the model was explained by the independent variables. Hosmer and Lemeshow Test shows that p = 0.054 > 0.05 is insignificant which is good to support for the regression model fit. The classification Table shows that out of 212 students who showed their preference to recommend their kith and kin to join at OCEM, this model predicts 181 students intended to recommend their kith and kin to join at OCEM but 31 students intended not to recommend their kith and kin to join at OCEM. The classification Table further shows that out of 24 students who did not intent to preference to recommend their kith and kin to join at OCEM, 17 of them intended to recommend their kith and kin to join at OCEM. Thus, it predicts students who intended to recommend their kith and kin to join at OCEM with 96.3 percent accuracy and also predicts that students who did not intend to recommend their kith and kin to join at OCEM with 35.4 percent accuracy.

The results further show that the overall percentage of correctness of observed data was 83.9 %. The results also show that there was association between students' preference to recommend to their kith and kin to enroll at OCEM and strict schedule of student development (p< 0.05 with odds ratio 1.625, B = .486 >1) in the Wholesome Analysis of Binary Logistic Regression Model indicating the positive impact on the schedule of the internal examination, grooming the student's career path and availability of interactive learning environment at OCEM. Similarly, the results further indicate that there was significant association between the student recommendation to their kith and kin to enroll l at OCEM and physical facilities of OCEM (p< 0.05 with odds ratio 2.822, B = 1.038) in the Wholesome Analysis of Binary Logistic Regression Model indicating the positive impact on the availability of books at the library and the comfortable transport system, management of the hygienic canteen and the management of the better lab facilities (see in the Table 8).

4.5. Results on multiple regression on categorical variables location and students' preference

Table 9. Model Summary of Linear Regression of categorical variables

Model	R	R Square^b	Adjusted R Square	Std. Error of the Estimate
1	.287a	.082	.071	.399

a. Dependent Variable: Student preference to recommend

b. Predictors (Constant): Western Chitwan, Eastern Chitwan, Central Chitwan

The coefficient of multiple determination is 0.082; therefore, about 8.20 % of the variation in the location of OCEM is explained by Eastern, Western and Central Chitwan. The regression equation appears to be very useful for making predictions since the value of R^2 is close to 1 but the value of R-square is not close to 1 so the regression equation appears to be not useful for making predictions.

Table 10. Results of ANNOVA on multiple regression analysis

Model	Sum of Square	df	Mean Square	f	Sig
1 Regression	3.405	3	1.135	7.132	0.000^c
Residual	38.035	239	.159		
Total	41.440	242			

a. Dependent Variable: Student preference to recommend

b. Predictors (Constant): Western Chitwan, Eastern Chitwan, Central Chitwan students' preference and college location

The results from ANNOVA Table (10) show that when α = 0.001 level of significance, there exists enough evidence to conclude that at least one of the predictors (Eastern, Western and Central Chitwan) is useful for predicting students' preference to recommend for the enrollment at OCEM; therefore the model finds useful.

Table 11. Coefficients of multiple regression

Model	Unstandardized B	Coefficient Std Errors	Standardized Coefficient Beta	t	Sig
(Constant)	.776	.031		25.378	.000
1. Eastern Chitwan	-.776	.284	-.170	-2.737	.007
Central Chitwan	-.776	.232	-.208	-3.342	.001
Western Chitwan	.076	.057	.083	1.336	.183

The results again show that when = α = 0.007 level of significance, there exists enough evidence to conclude that the slope of the location of Eastern Chitwan is not zero and, hence, the location Eastern Chitwan is useful (with number of locations) as a predictor of students' preference for the recommendation to enroll at OCEM. Again, the results further show that when α = 0.001 level of significance, there exists enough evidence to conclude that the slope of the location of Central Chitwan is not zero and, hence, that Central Chitwan is useful (with number of locations) as a predictor of students' preference on recommendation to enroll their kith and kin at OCEM. Finally, the results show that when α = 0.183 level of insignificance, there does not exist enough evidence to conclude that the slope of the location of Western Chitwan is not zero and, hence, that Central Chitwan is not useful (with number of locations) as a predictor of students' preference (Western, Eastern, Central Chitwan).

5. Discussion & Conclusion

The purpose of the current study was to examine the students' preference to recommend their kith and kin to enrol and to continue their higher degree at OCEM for the further study. The quantitative research approach along with the survey method was used to examine the opinions, experiences and ideas of students on their preference to recommend and to continue their further education at OCEM. The study was conducted inside the OCEM premises which had followed full criteria of research ethics. This study had clearly defined purpose and common concepts. The research procedure was described in sufficient detail to permit another research to repeat the research for further advancement, keeping the continuity of what has already been attained, reported with complete frankness, clear flaws in procedural design and has estimated the effects of all issues mentioned earlier paragraph upon the findings. The data analysis was adequate to reveal its significance and the methods of analysis was appropriate, the validity and reliability of the data were checked with the minimum value of Cronbach's Alpha (0.60) and the research design was carefully planned to yield results that were as objectives as possible. The Factor Reduction Model of Principal Component Analysis was used to find the relationship among different variables of each instrument.

The data analysis was based on descriptive statistics model where mean, Standard Deviation, Independent Sample t-Test of two different groups and Chi-Square Test were computed to find the association between gender and students' preference to recommend and to continue student's preference for the further education at OCEM. The Binary Logistic Regression of PCA was applied to find the association between the dependent and independent variables. The results show that there is significant relationship between emphasis on quality of extracurricular activities, strict student development schedule, better teaching environment, nature of principal, emphasis on punctuality, requirement of high quality, physical facilities, teaching resources and health and safety issues ($p<0.05$, B = -.500. -.449, -.429, -.490, -.404, -.428, -.904, -.410, -.295 and -.931) respectively. This study reveals that there was association between students' preference to recommend to their kith and kin to join at OCEM and strict student career development schedule ($p< 0.05$ with odds ratio 1.625, B = .486) in the Wholesome Analysis of Binary Logistic Regression Model indicating the positive impact on the schedule of the internal examination, grooming the student's career path and availability of interactive learning environment at OCEM. Similarly, the results further confirm that there was significant association between the male and female for the recommendation to their kith and kin to join at OCEM and physical facilities of OCEM ($p< 0.05$ with odds ratio 2.822, B = 1.038) in the Wholesome Analysis of Binary Logistic Regression Model indicating the positive impact on the availability of books for the study and the comfortable transport system, management of the hygienic canteen and management of the better lab facilities. The implication of this study would be useful for the college administration to formulate new student admission strategies and to reform different internal student centered policies.

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