Application of Management Information System in Marketing University Degree Programmes - A case study of Kenyan Universities

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Abstract— There is an increase in demand for university education in Kenya. This is as result of many Kenyans being more informed on the importance of having higher education qualifications. As the demand grows, Universities have aggressively capitalized on enrolling as many students as their capacity can allow. With such trends, many students get enrolled into degree courses they had little or no information about. From the study we established that many students do not get adequate information about the University degree programmes prior to their admission. Application of Management Information System can enable students to acquire adequate information about university degree programmes. Our study was motivated by the need to have adequate information on degree programs that students choose to do. The model proposed in this study can be adopted by our Universities to enable more students to have access to adequate and relevant information. Simple random sampling procedure was used to gather data from targeted population. We sampled 77 students and got responses from 77 students. 54 students did not have prior knowledge about the courses they were undertaking. The results were used to show inadequate access to relevant information. The study proposes the adoption of MIS as a marketing tool for University programmes. The prototype was developed using Entity framework code first design and MVC 3.

Keywords: Entity framework, Management Information System, information

I. INTRODUCTION

There is an increase in demand for University education in Kenya today [1]. Many secondary school graduates and the working class are joining universities to pursue higher qualification. This puts pressure on the University facilities hence the need to expand their existing facilities [2]. Universities have expanded their capacity to accommodate more students in their degree programs. Most Universities have increased their degree courses to attract more students, while many institutions have been upgraded to offer similar qualifications [1]. As a result, there has been an increase in enrolment to degree programmes in Kenya today. As observed by[3,4,5,6] Institutions of Higher learning face complex challenges, In particular, their operating environments undergoes many transformations such as changing demand patterns, intensifying global competition and declining funding. At the institutional level, the focus should not only be concentrated on attracting many students, but also on attracting quality resources such as building and renovating the existing structures.

The increased numbers of degree programmes in our institutions today present a challenge to students. Prospective students are not aware of the contents in their degree programmes. In such a context, there should be a deeper understanding of the degree programmes offered by each institution. In other words, there is need for a comprehensive and reliable source of information to potential students when applying for degree programmes. Every education system should enable development of personal goals [7]. It is through education that students are able to develop and actualize their potentialities and dreams. For this to be effective, from a student perspective, it is crucial that adequate information is available so that a well-informed decision can be made [8, 9]. This study focuses on the availability of adequate information to students when applying for degree programmes in the Universities.

II. CURRENT INFORMATION SOURCES

During the University application process, students use various means to search for information. Their sources can be classified as internal and external [10]. Two major typologies for information sources have been proposed. [11] Classify external information sources as interpersonal, media and retailer. [12] categorize information sources as direct inspection of the good by the consumer, marketer controlled, for example advertising, reseller information, for example catalogues and third-party independent, for example consumer reports.

Preference for information source varies from student to student. In terms of degree programmes offered, students may result to various sources for information, for example, print media adverts, parents and guardians, brother, sisters and teachers, brochures, leaflets and university websites.

This study investigated such sources of information. Studies on information sources for students, their requirements and relevance have found that students tend to rely primarily on information sources developed by the university such as brochures, leaflets, profiles and university websites [13]. Interpersonal sources such as parents, siblings, teachers and/or careers services were found to be of less importance [6, 9].

III. CHOICE OF UNIVERSITY

The choice of which university to attend for a degree course can be influenced by a number of issues. Studies carried out did not directly or indirectly approach the matter, the literature does not provide a consensual and comprehensive group of choice factors [13]. Lists of choice factors applied to particular educational systems at both undergraduate and postgraduate levels can be found.[3] reports six categories of factors when selecting a graduate school; characteristics of the academic environment of the institution and its programmes, financial aid, residency status, spouse considerations, the social environment of campus life and work-related concerns. [14] Identifies 15 choice factors for graduate business school selection, which include academic reputation of the institution, potential degree marketability, proximity and reputation in the community amongst others. This study aimed to establish how such information could be availed to prospective students with ease. Materials development by University such as brochures, profiles and media adverts do not reach all the students. Web materials developed and hosted in internet, can easily be accessed by many students.

IV. CHOICE OF UNIVERSITY

The choice of which university to attend for a degree course can be influenced by a number of issues. Studies carried out did not directly or indirectly approach the matter, the literature does not provide a consensual and comprehensive group of choice factors. Lists of choice factors applied to particular educational systems at both undergraduate and postgraduate levels can be found. Kallio (1995) reports six categories of factors when selecting a graduate school; characteristics of the academic environment of the institution and its programmes, financial aid, residency status, spouse considerations, the social environment of campus life and work-related concerns. Webb (1993) specifies 15 choice factors for graduate business school selection, which include academic reputation, potential degree marketability, proximity and reputation in the community amongst others.

V. DATA COLLECTION PROCDURES

The research used quantitative research design which involved measuring numerical values from which descriptions were made. Data samples were collected from selected students at Chuka University. A questionnaire was developed to gather data from students on sources of information when applying for their degree programmes. A pilot study was first conducted at Chuka University to estimate the reliability of the instrument. The questionnaire was then administered to first year students enrolled at Chuka University. Students filled out the questionnaires during their free time capturing their perceptions on their information sources.

The research instrument included three sections:
(i)   Student background information. This part covered demographics, academic aptitude and field of study.
(ii)   Student source of information. In this part, students were required to give their information sources. A list was provided to students to rank the listed sources in the rating of 1-5 (highest – lowest) as follows: visits to secondary schools, university brochures and leaflets, television, radio, newspapers and the University website.
(iii)   The final section included a list of choice factors drawn from the literature. These included; academic reputation of the University, geographical proximity to their homes, guidance from academic advisors/teachers and peer pressure from current university students and family members.

Respondents were further asked to list any other three additional sources they could have used. Data analysis consisted of descriptive statistics. The Statistical Package for Social Sciences (SPSS) version 11.5 was used. The research used quantitative research design which involved measuring numerical values from which descriptions were made. Data samples were collected from selected students at Chuka University. A questionnaire was developed to gather data from students on sources of information when applying for their degree programmes. A pilot study was first conducted at Chuka University to estimate the reliability of the instrument. The questionnaire was then administered to first year students enrolled at Chuka University. Students filled out the questionnaires during their free time capturing their perceptions on their information sources. The research instrument included three sections: (i) student background information. This part covered demographics, academic aptitude and field of study. (ii) Student source of information. In this part, students were required to give their information sources. A list was provided to students to rank the listed sources in the rating of 1-5 (highest – lowest) as follows: visits to secondary schools, university brochures and leaflets, television, radio, newspapers and the University website. (iii) The final section included a list of choice factors drawn from the literature. These included; academic reputation of the University, geographical proximity to their homes, guidance from academic advisors/teachers and peer pressure from current university students and family members. Respondents were further asked to list any other three additional sources. Data analysis consisted of descriptive statistics. The Statistical Package for Social Sciences (SPSS) version 11.5 was used.

VI. RESULTS FINDINGS

The target population was 100 students. Questionnaires issued were 77 of which there were 77 respondents. The majority of respondents were females at 40, males 37, the average age range was 18–21 years. Students were distributed across the following areas of study (n = 77): education science (27%), computer sciences (33%), Bsc. Nursing (15%), Bcom (15%) and criminology (10%).

The majority of students came from Tharaka Nithi County (36%). Respondents predominantly chose Chuka University as their first choice (56.3%). The majority also selected the degree for which they were admitted as their first option (51.5%).

VII.   SOURCES OF INFORMATION

Majority of students had no information about their degree programmes 61%, with 27% having had that information from the media-television. The main drive for this research was to outline the sources of information to students when applying for University degree programmes. Respondents were asked about their overall assessment of the available information. Respondents were asked to indicate the three most important information sources they used. The University websites was the most used source indicated by 26% of the respondents, and 41% of respondents highlighted it as one of the three most significant sources. Students seemed to resort less to the other marketer controlled sources: university brochures and the profile booklet 8% ranked this source as the most used, and 23% selected it as one of the three most used.
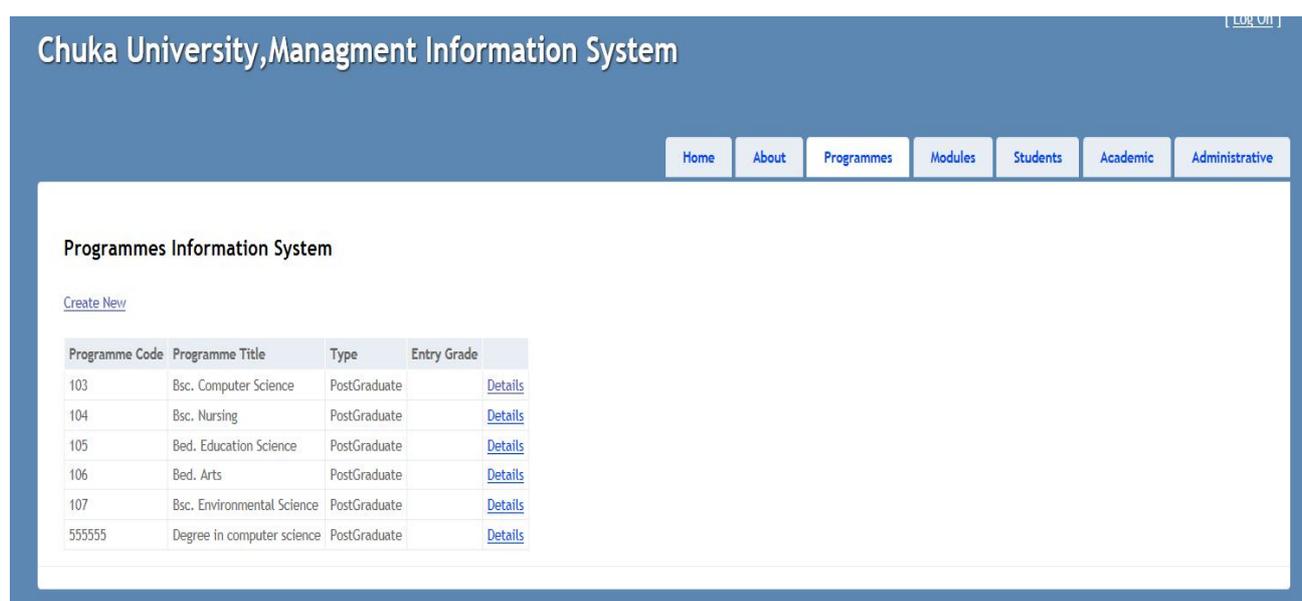
VIII.   DISCUSSION AND CONCLUSIONS

This research attempted to contribute to a deeper understanding on the importance of reliable sources of the information and the choice factors that edify decision making for university degree programmes. As [10] states, 'of particular importance to managers is an understanding of the pre-purchase information acquisition process used by service consumers'. Regarding the information sources, the results show the importance of the Internet as a key source of information for prospective students. This result is partially in line with [6], who concluded that students rely principally on information sources produced by the university. Previous studies have reported the growing importance of websites as an information source for university applicants [7, 15].

IX. MIS MODEL

[15] Notes that with the proliferation of information systems and technology as witnessed today, Universities have the ability to accumulate huge amounts data in large databases systems. Management information system can be a useful tool for provision of the much needed information on Universities degree programmes. The system would be highly useful to potential students wherever they are as they can easily access the information through their smart phones and tablets. The study proposes an establishment of web server in each University. Those that have existing web server needs align theirs with the proposed model. A web server would be set to host University database of degree courses. Searching and sorting algorithms implemented would enable the server to handle query services from students. A students logins to the server and supplies a keyword in the related field of study. The algorithms return a list of possible degree course the students can choose from. Each program that a student's chooses gives a detailed information on the course type, mode of teaching, evaluation and other information of interest to the students. Based on the above information the students can make his/her opinion on the suitability of the course.

The prototype model was built using entity framework and ASP.net MVC 3. The application should be built as a web service to enable easy accessibility to all students across the nation. The figure below demonstrates how the model should appear. Each degree programme on offer is listed with the details section to give detailed information for each programme. Entry grade for various programmes can also be availed on the home page to enable quick decision making.

Fig 1: prototype of proposed MIS model for degree programmes

X. RECOMMENDATIONS

It is evident from our research that students do not get adequate information during University application process. Adequate information would enable students to get formed opinion about their degree choices. This study is not without limitations. It considered only applicants to Chuka University. This may affect generalizability. However, since admissions are based on nationwide competition and prospective students apply to up to four universities/degree options through Kenyan Universities and Colleges Central Placement Service (KUCCPS), the findings of this research could be extended to other Kenyan Universities.

Then analysis carried out in the research of more of quantitative nature. More in-depth research should be carried out to find out how the graduated students fit into the job markets and their willingness to work. In addition, an in depth analysis of the content and relevance of information sought by prospective students would constitute an important insight into the University selection process and build on [6] work.

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