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PERFORMANCE MEASURES ANALYSIS FOR ONLINE AND TRADITIONAL STUDIES

Abstract: *This study investigates the students' satisfaction and compares it to the quality and style of studying among 220 students, out of which 66 are online and 154 are traditional students. Of particular interest is to determine and compare degree of satisfaction of online and traditional students. These results are used to give recommendations for the course and institution improvements and evaluations.*
Keywords: *performance measurement system (PMS), student satisfaction, eLearning*

1. INTRODUCTION

Performance measurement system (PMS) is of vital importance for an overall successful work of an organization. Performance management is the process of quantifying action, where measurement as a process of quantification and action leads to performance [1]. An innovative organization that has a strong culture, a clear sense of mission and purpose, a well thought out strategy and a business philosophy of continuous improvement, is driven by Total Quality Management (TQM), which is successfully realised by PMS [2]. The performance measurement and evaluation of online and traditional studies is of great importance for effective and high-quality educational system. The evaluation and definition of success metrics plays a key role in this process. The quality of education for both groups should continuously be improved, and both groups should have equal quality, so no particular group has advantage over the other.

As a means to contributing to PMS, this study investigates students' satisfaction and compares it to the quality and style of studying. The evaluation of quality and effectiveness of eLearning system was conducted based on the comparison of the satisfaction of traditional and online students. This evaluation is significant, as it allows multitude of factors to be categorized based on the preferences of traditional and online students. This study provides a systematic analysis and addresses future research challenges. Nevertheless, this study includes heterogeneity and divergent needs of online and traditional students, which can be used in the future to better address their needs, by implementing appropriate pedagogical methods in their education.

A number of research papers are dedicated to analysis of different aspects and approaches to PMS. Kaplan and Norton „Balanced Scorecard" stated 4 performance perspectives of business excellence: the financial, the customer, the internal business process and the learning

and growth perspective [3]. DeLone and McLean, based on their work from 1992 [4] proposed updated information system success model with dimensions: information quality, system quality, service quality, intention to use, user satisfaction and net benefits [5]. This model is widely used for evaluation of information systems, such as eCommerce and elearning systems. Neely et al. established the performance prism for measures process with five elements: stakeholder satisfaction, strategies, processes, capabilities and stakeholder contribution. One of the common dimensions of performance measures is customer satisfaction [6].

Students' satisfaction must be recognized as the important feedback that should be used as an input for establishing sound educational policies and practices. Cook-Sather in his research stated that students should be included when changing the terms and the outcomes of educational policy and practice in order to make education a viable and revitalizing process [7]. Therefore, students can be viewed as customers, and they must be recognized as the essential factor for the quality improvement of academic program and/or institution. Evans pointed out that students' point of view about activities in the classroom is more real than the point of view of teaching staff or institution managers [8].

Researchers working in educational settings are increasingly paying attention to impact that students' thoughts and beliefs have in the learning process. Dinther et al. [9] have identified and measured factors connected with student's self-efficiency in accordance with social-cognitive theory. In their research they strongly emphasized that self-efficacy is vital for academic performance.

Many universities seek to maintain their competitive positioning by putting great effort into measuring and managing items of quality that are incorporated in quality ratings and rankings of external accreditation bodies. Indicators of quality can initiate a virtuous cycle that should result in attraction of more capable students, which in turn should help to improve its quality indicators [10].

A number of authors have examined the reasons for students' satisfaction or dissatisfaction with their higher educational experience. These studies include multiple approaches used to measure satisfaction. The most common is approach is to relate attributes of the academic program itself. These attributes include the quality of teaching and the curriculum, as well as the achievement in the sense of students' learning and career goals. The availability and quality of facilities and services, such as advising and IT support, are also recongnized as somewhat important. Non-academic variables, such as the degree of 'student centeredness' and the degree of social integration experienced by the student can be particularly important in larger institutions. The non-academic variables often appear to be the cause of dissatisfaction [11]. Some of these facts are in accordance with research of Mai [12]. He recognized that quality variables are very important for students' overall impression of education quality: lecturers' expertise and interest in their subject, the quality and accessibility of IT facilities and the prospects of the degree in furthering students' careers. Beside these cognitive factors the significance of effective components is also of great importance. Unfortunatelly, emotions have remained relatively unexplored as a link between measures of satisfaction and future behavior/referral, both within commercial services sectors generally and the higher education sector specifically [13].

According to analyzed literature, it is of great importance for educational institutions to implement performance measures and to give importance to students' satisfaction. According to

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implementation of IT technologies in studying and implementation of eLearning, the evaluation of quality and effectiveness of traditional and eLearning system have to be measured through the comparison of the satisfaction of traditional and online students. This evaluation is significant, as it allows multitude of factors to be categorized based on the preferences of traditional and online students.

Paper is organized as follows. Section 2 focuses on the research methodology of our research and the current educational system at the academic institution where the research was conducted. This is followed by presentation of results and discussion in Section 3. This paper concludes with Section 4.

2. METHODOLOGY

The research was conducted in several stages. During the first stage, students were enrolled in the same class and were provided with same learning materials (written lectures and weekly quizzes) and course assignments. This group of students consisted of 154 traditional students, which had regular in-class lectures and recitations, and 66 online students, which did not have to attend these lectures, but were provided with power point presentations with audio narrations instead. The educational system at the academic institution where the research was conucted specified that online students should not be given strict weekly deadlines to submit their assignments, but rather a soft deadline policy. On the other hand, traditional students were given strict weekly deadline for submission of course assignments. In addition, specific recommendations were given to students in order to use other available resources and examples of solved problems for each lesson.

In the second stage, after the students have finished 15-week period, which is the duration of one full semester, a questionnaire was designed and administered. During this 15-week period students had time to get fully familiarized with courses and course assignments. Questions were carefully designed, so that results can indicate not only students' satisfaction and expectations, but also students' attitude toward learning in general, as well as eLearning. Questionnaire was designed using a 5-point scale, where 1 indicated least agreement and/or satisfaction, and 5 indicated greatest agreement and/or satisfaction.

3. RESULTS AND DISCUSSION

The questionnaire was administered to 220 students, all ranging from 1st to the 3rd year of study: 1st year 103 (47%) students, 2nd year 35 (16%) students, and 3rd year 82 (37%) students. Out of 220 students, 154 (70%) were traditional and 66 (30%) were online students. Furthermore, this group included students from three different fields of studies: graphic design, management, and information technology. The responses from the survey indicated that students addressed the following criteria as the criteria that affect them the most in their studies, either positive or negative:

- Working in groups with other students
- Usage of learning materials
- Surroundings opinion about the quality of online studies
- Employment status and the location where student resides
- Administrative and organizational quality of academic institution
- Student's opinion about online studies
- Degree of current motivation to complete studies
- Satisfaction with their academic program and the institution

The results of the part of questionnaire related to students' satisfaction about

administrative and organizational activities of the academic institution showed that satisfaction levels between traditional and online students are close in value. However, it is noticeable that traditional students' give importance to organization of extra curricular activities, as only 55.84% of traditional students were satisfied with the quality of organized activities. As far as the quality of administrative work of the institution, it is noticeable that online students' are slightly more satisfied, which may have been caused by the less interaction of online students with the same offices. On the other hand, both online and traditional students have given the lowest satisfaction ranking to their experience with their mentors 57.58% and 61.69%, respectively. This is one of the key ingredients, which can help both type of students to overcome difficulties in the future, and should be further analyzed and given recommendations for the improvements.

When analyzed students' attitudes towards the online studies in general, and attitude of their surrounding towards eLearning studies, results showed that online students significantly better opinion about online studies in general, than traditional students did, 83.33% and 49.35%, respectively. However, both groups seemed to believe that the opinion of their surroundings about online studies is not as high. This compares to 68.18% and 40.91%, respectively. As expected, traditional students have found that interaction with their classmates is very important (77.92%), while only 40.91% of online students stated that the help of their classmates was significant in their study process. Both groups of students exhibited similar level of motivation to complete their studies: online 77.27% and traditional 79.22%.

Analysis of students' satisfaction and perception towards the quality and frequency of usage of learning materials and course assignments showed that both online and traditional students use the written chapters posted on eLearning system the most in their studies, 90.91% and 87.66%, respectively. On the other hand, their least favorite form of materials are audio narrated power point presentations where only 43.94% of online students are satisfied with their quality, and 46.10% of traditional students shared the same opinion. Furthermore, students restrained from using additional form of information, such as referenced recommended additional literature and readings. Only 46.97% of online and 43.51% of traditional students used this type of resources for studying. These results are good indicators of how the learning content should be structured, as learing preferences and styles are chaning with new generations of students.

Another significant analysis in this study tried to single out the reasons why students enroll in online studies. Internet students rank the most influential reason for choosing online studies the fact that they are employed, and that they do not have to attend lectures. Second reason was the fact that they do not live in the same city where university is, while the third reason was the soft deadline policy for submitting their course assignments.

Finally, analysis of students' satisfaction with their academic program, college and the institution showed high level of satisfaction of both groups. Moreover, online students rated their satisfaction for the academic program at 90.91%, where 59.09% ranked it with '5', and 31.82% with '4'. On the other hand, 89.61% of traditional students said they were satisfied with their study programs. Even though that the level of satisfaction is relatively similar, online students exhibited slightly higher level of satisfaction than traditional students.

4. CONCLUSION

Results show that there is a relationship between certain parameters that indicate degree of students' satisfaction for each group of students, online and traditional. These results have shown that level of satisfaction of traditional and online students overlap in most criteria. However, the results show that structure and content of learning materials have to be remodeled or redesigned, as both groups of students prefer to study using written type of materials and worked out examples posted on eLearning system. While both groups of students emphasized on importance of mentoring work. It is obvious that personalized level of studies and interaction with students will improve satisfaction and study experience for both groups. Furthermore, traditional students have also emphasized importance of students' organizations and extracurricular activities. Future work should further analyze these parameters and ways of introducing the improvements in order to enhance the quality and experience of both groups of students.

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