How to use Cobit Applications in Educational Institutes

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Abstract

Decision makers are looking at all expenditures to see where to cut costs and install greater IT systems management efficiencies. For implementation of an IT governance program successfully, it is important to understand management needs. IT service management is becoming more important in any kind of business sector including in heigher education sector or university education. In the unversity education system, it can be used to enhance competitiveness and performance of related stackholders. IT infrastructure is growing increasingly complex as diferent technological advancements, such as IT governance (by some special methodologies like Control Objectives for Information and Related Technology (CoBIT) & Information Technology Infrastructure Library (ITIL) etc) and cloud computing, continue to enhance higher education networks. These systems management solutions can be very helpful to facilitate greater collaboration in learning and educational management. In this study we investigated the problems of the Atilim University students 'n Turkey about the course control system (Focusing on Time-Table scheduling system). In the survey we asked questions about registration process, time table managements, exam time clashes, course loads, student satisfaction about the time table and exam allocation system. The results are gathered, analyzed and documented and the results are discussed. Depending on the results we proposed a CoBIT metodology to improve the student satisfaction.
Key-words: CoBIT, IT Governance, Information technology, Performance measurement.

1. Introduction

In these uncertain economic times, universities are looking to control costs wherever possible. The focus is currently shifting from improving internal operations to concentrating more on customers and Higher education customers are demanding more attention and immediate service—that is, "Internet time."(Grant and Anderson, 2002). Decision makers are looking at all expenditures to see

where to cut costs and install greater <u>IT systems management</u> efficiencies. For implementation of an IT governance program successfully, it is important to understand management needs. IT service management is become more important in any kind of business sector including in heigher education sector or university education. In the unversity education system, it canbe used to enhance competitiveness and performance of related stackholders.

1.1. Managing Systems Management in the IT Infrastructure

Managing the IT infrastructure for higher educational institutions is becoming an important task/part and directly related with resource management (i.e. stackholders and other educational resource management & activities etc.). Now for implementation of a such kind of system, it is important. People must understand basic idea/items of the systema and make expertise with it. Systems are often covering maximum part of the work. All stackholders must have varying levels of computing needs and experience and among them IT professionals for educational institutions need to perform a balancing act by providing for the needs of users, managing a complex IT infrastructure and within the budget.

IT infrastructure is growing increasingly complex as diferent technological advancements, such as IT governance (by some special methodologies like CoBIT & ITIL etc) and cloud computing, continue to enhance higheir education networks. These systems management solutions can be very helpful to facilitate greater collaboration in learning and educational management.

Managing IT infrastructure doesn't have to be thankless it is based on experience, a long term planning and implementations. IT systems management automation allows users to control their operations more efficiently, enhance to improve productivity and raise your reputation within educational environment.

The systems management solutions for these issues are found in strategic investment in technologies that can boost efficiency, save money mid and long term and make IT an integral part of a school district's or university's processes and objectives. By automating key tasks, IT professionals can experience cost reduction, decreased downtime, improved value and the power to strategically align objectives with organizational goals.

IT systems management automation system can do:
- Minimize the daily strain from your IT service delivery
- Automate routine IT tasks and manage devices from multiple locations
- Efficiently manage different systems through one/two interface
- Improve the security of IT environment

With the development of ICT implementation in universities, is to guarantee the quality of IT service in IT Service Management in a lot of universities, but it is not satisfied by the users still (Chen, 2009). So how to design and implement an IT Service system is becoming a interesting subject for researchers.

In order to address the goals and needs of administrators, educators, students and school districts, IT professionals must have the most effective solutions in place. Remote IT systems management does seem to be the best possible approach, but exactly how does it work?

Fig-1. Six facets of evaluation for each of the five ECM levels.
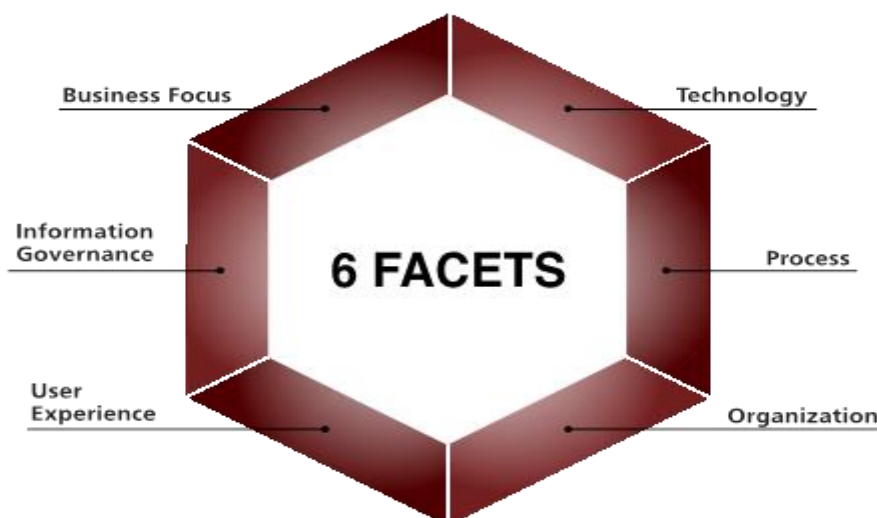
Source: Texas A&M Information Technology.

2. Analysis Of Users' Requirement

Analysis of users' requirement is a way to make clear what the users really want. In our study we develop a questionnaire in web environment for Atılım University undergraduates to ask their opinions of the workload and details of their courses. The data were collected from 98 students in Faculty of Engineering, Atılım University. This data can be useful for current and future students who are making decisions on how and when to schedule their courses and classes.

The registration of the students to faculty/higher school/vocational high school programmes of study shall be carried out as per the conditions and documents determined by OSYM (Students Selection and Placement Center) in Turkey. In Atılım University students must renew their registration at the beginning of each semester within the time announced by the President's Office following the payment of the tuition fee of the semester and the approval of their course schedule by their academic advisors. The normal course load of a student is the total number of credits in the curriculum for the semesters. The curriculum and the prerequisite chain can be modified in each semester. A prerequisite course is defined as a course which must be taken and passed with a passing grade before a specific course is taken. The student's year is determined from the Instructor/Student Information System (SIS – sis.atilim.edu.tr) which was created at 2009. The student enrolls in the courses using the SIS and the advisor checks the courses and sections and approves the registration (Fig.2.).

**Fig-2.** Atılım University Instructor/Student Information System

If the Cumulative Grade Point Average (CGPA) of the student (excluding the first two semesters) is below 1.7, the student will be allowed to enroll to at most 3 new courses (at most 10 credits). The student can only take his/her normal course load. If the student's CGPA is above 1.7, but below 2.0, the student can only take his/her normal course load. If the student's CGPA is above 2.0, the course load can be increased by at most 10 credits (not exceeding 3 courses). The course load can only be increased starting from third semester. Except for the first year courses, the student is allowed to withdraw from one course per semester (the total number of courses withdrawn can be at most 6). The students cannot withdraw from previously failed or withdrawn courses. If the student is enrolled in 3 or less courses, he/she is not allowed to withdraw. These rules and conditions seem to apply for two thirds of students (65.3 %) expectations in our survey.

Our survey has found, that 34,7 % of the students do not take normal course load. 38.8% of the students do not take in addition to their normal load. Additional course load details shown in Fig.3. Quarter of the students (26,5) allowed to enroll to 3 new courses. 36,7 % of the students think that the extra course do not affect their course studies .

Fig-3. The distribution of enrollment for course load and impacting for student studies.
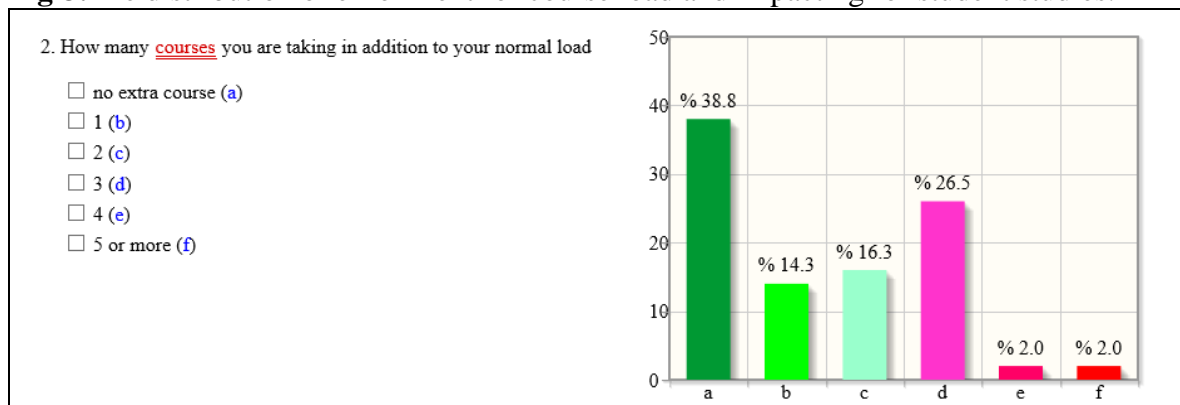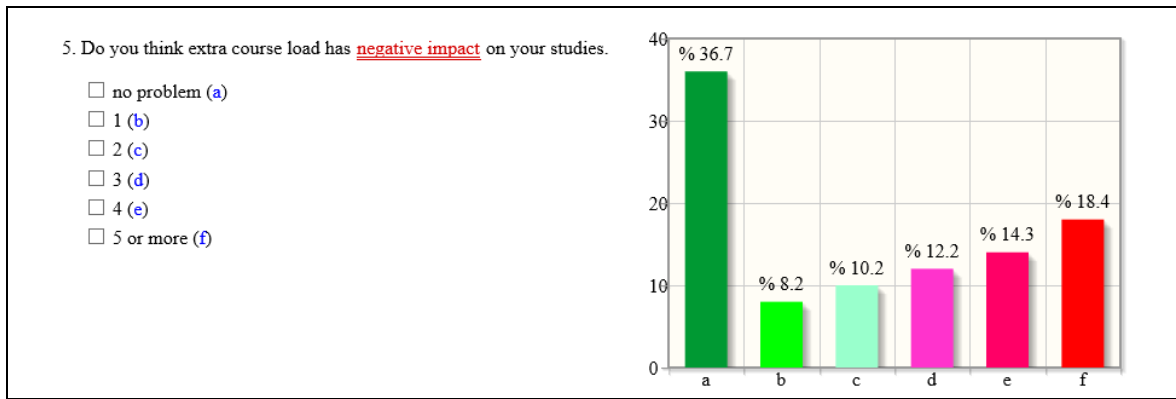
On the other hand the one-fifth of the students (22,4%) satisfy with their current time table system and they face minimum problems to manage weekly time table for their courses. The weekly course time planning for all departments have been developed by Time-Table Department, of Atılım University. (In the past, administrator attempted to use a few softwares. Aim of the those softwares announced for helping to individuals, faculty members in charge of timetable creation to easily do their scheduling part). In other words, the task is to allocate courses or other activities to available time blocks and places with respect to constraints and parameters which are given by user(s). But unexpected results occured and abandoned those softwares. Majority of the students (79.6%) have problems with time table in different ratios. The awareness of weekly time table management shown in Fig.4.

Fig-4. The awareness of of weekly time table management in Atılım University

Same procedures also applied for examination schedule system. 12,2 % of the students satisfy with their current exam. and do not face in their exam time clash. In Atılım University, examinations consist of midterm examinations, short examinations, final examinations and resit examinations. In each semester at least one midterm examination is carried out. The dates of the midterm examinations are announced by the related instructor at latest during the first month of the semester. The changes of the dates of the midterm examinations are made upon the approval of the department chair. Short examinations (i.e. small quiz) may be carried out unannounced. The final examinations are carried out in the dates and places which have been announced by the faculty/higher school/vocational high school in accordance with the academic calendar which has been determined by the Senate. Students shall be given a final grade by the instructor based on midterm and final examinations grades, their assignments and the attendance record. The average of the grades of midterm examination, assignments, homework and related grades as well as final examination grade is measured on the basis of their weighting percentage, and then is transferred into letter grade. Furthermore, majority of the the students have exam schedule problems in the survey (Fig.5.),

Fig-5. The awareness of of examination schedule system in the Atılın University
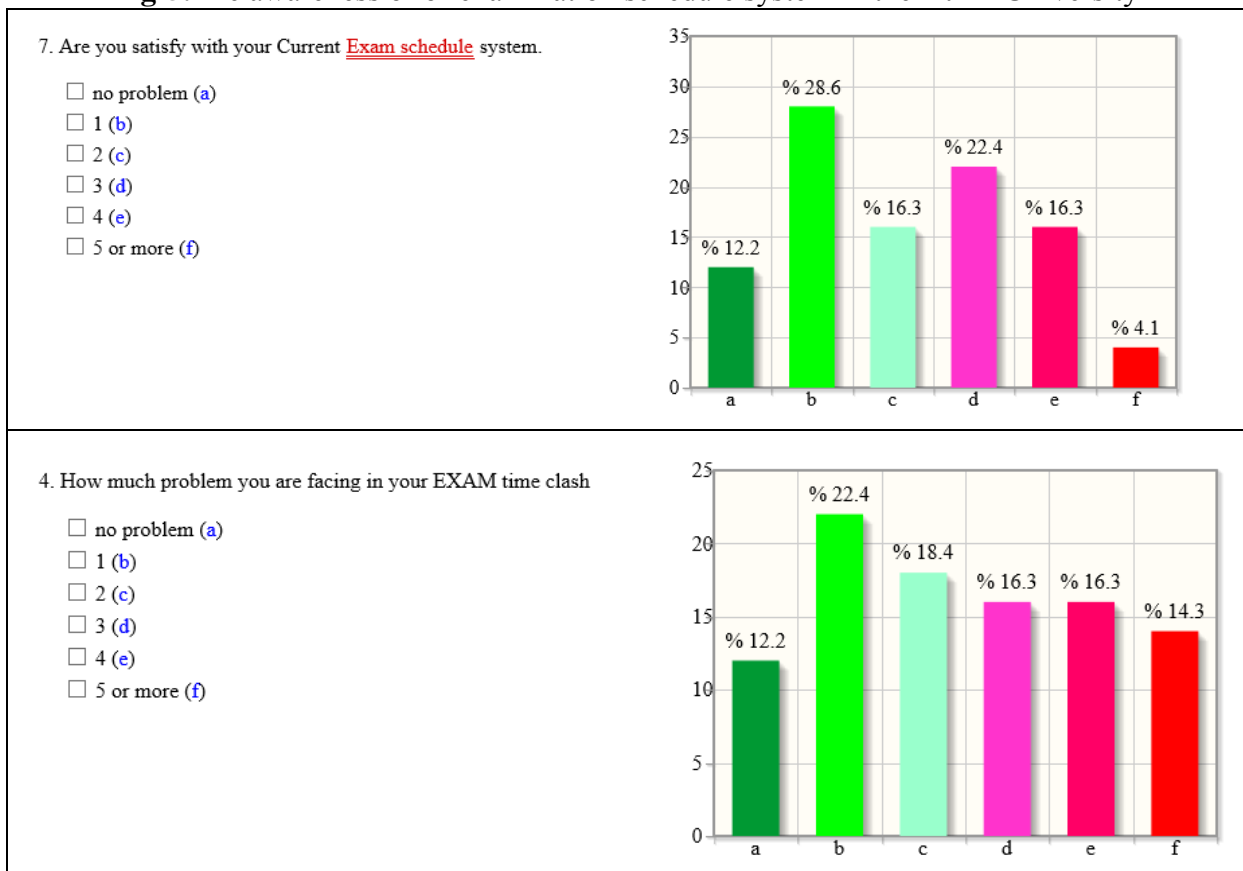
3. Discussion & Conclusion

In this paper,we are depending upon a live survey from our current undergraduate students in the Atilim University. Our work captures the knowledge of best practice guidance in ITSM, including the workflow specifications and the rest of CoBit-based IT service management model elements, where we we are working on "Information Governance" and most importantly "user experience". In many IT service providers there is a lack of tools and automation for reporting on metrics.

We will describe here a new approachments to extending and customizing of user expectation in different mode to keep maximum-user satisfaction.

In this work, criteria-based time-table management, which is a difficult and significant problem both algorithmically (NP-complete) and practically, i.e. to build the entire time-table and scheduling by hand, or by using MS-Office applications, is high time-consuming task. Therefore, we aim to build a software that models the user generated sources and applies the given criteria with the purpose of letting user to design the timetable via instructive warnings and suggestions.

Several educational institutions, course timetabling is hard task to manage, since there are many different parameters and constraints that have to be considered. For example, large-scale timetables such as university time-table might require many hours of work spent by qualified people or team in order to obtain high quality timetables with optimal constraint satisfaction. In any case that optimization of constraints are been missed, whole education process face with a serious threat of chaos. So, timetabling accomplished by hand or MS Office Excel is not reliable well enough for such a serious mission. A glance to the number and variety of software written for timetabling process according to GSTPL's, like our survey also proves how scheduling is important. Thus, our project also aims to fulfill this need by creating an environment that helps to user who will manually build the system.

4. To Satisfy of Time Schedule Management We Try to Apply Following Rules

Our work is focusing on entire time-table management system in the university education, must define optimization of parameters and constraints, suggestions and warnings lead the user to the understand/satisfying output. System must be "Easy and user-friendly input entry options" and with maximum adaptability of additional user-defined constraints, with achieve most proper scheduling results according to the constraints.

The system must be environment friendly (i.e. can work on any kind of system including mobile devices) and it shows to registered user some important "Instant Alerts" about events. For this we are using "COBIT framework", define best possible solutions for maximum user satisfaction.

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List of Abbreviations
CoBit- Control Objectives for Information and Related Technology
IT – Information Technologies.
ITIL – Information Technology Infrasture Libra