THE PERCEPTION TOWARDS THE MANUAL REGISTRATION AND THE IMPLEMENTATION OF ELECTRONIC REGISTRATION IN HIGHER LEARNING INSTITUTE: A CASE STUDY OF IBMS COLLEGE

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NORIZAN BT. HJ. MOHD ISMAIL

A Research Paper Submitted in Partial Fulfilment of the Requirement For the Degree of Corporate Master in Business Administration Faculty of Economics and Business University Malaysia Sarawak (2004)
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Encik Hamdi bin Feesi              Supervisor

[Signature]

This dissertation is submitted to the Faculty of Economics and Business, UNITAR, as a partial fulfilment of the requirements for the degree of Corporate Master in Business.
I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a research paper for the degree of Corporate Master in Business Administration.

Encik Hamri Bin Tuah
Supervisor

This research paper was submitted to the Faculty of Economics and Business, UNIMAS and is accepted as partial fulfillment of the requirements for the degree of Corporate Master in Business Administration.

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DECLARATION AND COPYRIGHT

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I hereby declare that this research is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by footnotes giving explicit references and a bibliography is appended.

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THE PERCEPTION TOWARDS THE MANUAL REGISTRATION AND THE IMPLEMENTATION OF ELECTRONIC REGISTRATION IN HIGHER LEARNING INSTITUTE: A CASE STUDY OF IBMS COLLEGE

ABSTRACT

We are living in the era of information technology. Usage of computers is really synonym with our lives nowadays. Most of the application is no longer done manually. Therefore, Electronic Registration in IBMS is developed to help registration process so that the students will be able to do student registration, course registration and also can obtained their academic results and view their financial information wherever they want even at home. A research and analysis of online system was made as a reference for enhancement. A questionnaire is used as a methodology in developing this system. With IBMS Electronic Registration system, it may help making student registration process easier.
CHAPTER 1
AN OVERVIEW

1.1 INTRODUCTION

The growing prominence of higher learning institute has meant a significant increase in enrollment. This has necessitated a change in the existing paper based registration system. Problems include lack of storage space for student records, an inefficient information retrieval system, and outdated course registration system. Currently, students fill in registration forms with their desired courses and mail them to the university, which in the past meant students usually got their choice of courses. Recent growth of the student population have caused more difficulty in assuring the students their choices; when courses are full, the university has had to contact the student via mail to notify them and then the student has to make appropriate changes to their schedule. Registrar’s Office staffs have difficulty managing the increase in courses offered, keeping track of student records and fees. Often, they spend most of their time searching file cabinets for documents.

1.2 BACKGROUND OF THE STUDY

IBMS College was established in 1989 and started out as a higher learning institute offering law degree programmes and business diploma programmes. Now, IBMS runs a number of programs and courses in the undergraduate (Degree) level and postgraduate (Masters) level related to the following disciplines: Law, Business Management, Administrative Management, Human Resource Management, Marketing, Information Technology, Computer Studies, Public Relations, Mass Communication, Accounting, Finance, Tourism Management, E-Business, Leadership, Project Management and Personal Financial Planning. With the mission of addressing the educational needs of the local people, IBMS
IBMS works in partnership with leading institutions such as the University of Southern Queensland (Australia), James Cook University (Australia), Queensland University of Technology (Australia), University of Portsmouth (UK), University of London (UK), Heriot-Watt University, the Institute of Commercial Management (UK) and many more.

IBMS seeks to be a center recognized for its dynamic, forward-thinking and innovative programmes in business and management education and research. The college shall be guided by the following objectives:

(a) To contribute in defining and advancing the future profile of the nation in a period of global competition and increasing dependence on technology

(b) To demonstrate high academic quality and relevance in its educational programmes such that the graduates will be much sought after

(c) To have a good research reputation in distinctive role areas

(d) To propagate the innovative application of modern information technologies in service to society

1.3 REGISTRATION IN IBMS

1.3.1 Traditional Method

The current registration process in IBMS is a manual system, whereby the student needs to queue up to write their names in the registration form. The registration process must be done during office hours. Since there is an increase in the total number of
students, the management decided to limit the number of students for each subject offered. So for course registration, students must obtain the lecturer's signature if they want to add and drop the subjects.

1.4 RESEARCH PROBLEM

Student registration systems that are in place in IBMS require students to come to the campus and register for respective courses. Such systems put strain on the computing and human resources available. Some of the problems that are inherent to these systems include time consumption in the registration process, pooling of computing and administrative departments, and an acute increase in the staff requirements to complete the registration process in a short span of time for all students.

For new students, it is difficult for the students to register by using the manual system because there is no information about the courses offered in the registration form. By using the current method, students need to meet the registrar personally to ask what are the courses offered.

1.5 OBJECTIVES

The objectives of this paper are stated as below:

1.5.1 To identify students' perception towards the registration services
1.5.2 To identify administrators' perception towards the manual registration system
1.5.3 To identify students' perception towards the implementation of the Electronic Registration
1.5.4 To identify administrators' perception towards the implementation of the Electronic Registration
1.5.4 To provide some recommendations to the organization on Electronic Registration
1.6 **SIGNIFICANCE OF THE STUDY**

This research paper will give a benefit and contribution to several users such as students and administrators as well as to the organization. In order to increase the efficiency of registration method, this paper proposes that an online system to be introduced to replace the current method. It means that, user can register from any terminal they prefer, even at home. This paper also try to overcome the problems with information regarding courses that are offered for a particular semester and also problem regarding the payment of fees. Apart from that, this research paper also will provide recommendations to the organization on Electronic Registration and this paper will also enrich the study on this particular area or topic.
CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION
Electronic Registration has become commonly used due to rapid growth of the Internet. The idea of Electronic Registration system occurs to benefit the existence of the Internet technology. With the existence of such system, students will save a lot of time and the whole registration process will become easier.

2.2 RELATED REVIEWS: CASES
In less than forty years, the University of Victoria has become one of Canada's leading universities. University of Victoria has implemented web-based services for their students. The services include course registration, student records, final examination timetable, student's result and university's information. The University of Victoria's course registration system on the web is a secure system using "https" protocol. Students can view their courses and grades, timetable, transfer credit details, address view, address change, account balance, account details, unofficial transcript and admission inquiry from the website. Other than that, students are also authorized to Re-register their course. For new students, they can view the university's general information such as student facilities, services for students and fees. There is also information for the course and the online campus map (University of Victoria, 2003).

The online services in University of Maryland are called TESTUDO, which refers to Interactive Web Services for Current Students, Prospective Students and Alumni. Access to the services provided could be divided into two parts, which is Limited Access and 24-hour access. Undergraduate and graduate students who wish to apply to the university can
request for an application form from the website. Students also can drop or add courses online and make a schedule adjustment and view their schedule. Students can use this application to view their previous semester grades. Grade Inquiry provides the grade reports for the students. It contains the most recent grading semester. The grades are updated once a day. Using this service, students can request for their official transcript online. The university also gives the authority for parents to access the system where they can view student schedule, grade, unofficial transcript and student account inquiry (University of Maryland, 2003).

Franklin University is one of the top colleges for non-traditional students. To serve their students better, Franklin University offers many services online. There are several functions that are provided by Franklin University such as academic programs and courses, admission and registration and financial services. This function provides course description, course schedule and online registration. In course description, there is a description of each course in every major area to give student a better view about the course offered. Franklin University provides a searchable listing of courses by time and subject, current course schedule and adds or drop course with online registration form. This function provides online application for undergraduate admission, registration information, online registration, important registration dates, Electronic Exchange Signature Authorization and academic transcript request form. Students may register by completing a course registration form and submitting it to Student Services by email. After a student has submitted a registration form, course prerequisites will be checked and a confirmation copy of the schedule and fee statement will be given to the student or forwarded by email. Students with prior financial balances or financial aid ‘holds’ must contact the Business Office prior to registering. The students can obtain the specific dates in the Term Course Schedule where they can view the academic calendar for the current and upcoming semesters. Electronic Exchange Signature Authorization form provides students an opportunity to supply to their authorized signature to Franklin so that various forms, which would ordinarily require a signature each time, can be submitted electronically using a
PIN number as their signature. In addition, this form authorizes Franklin University to electronically transmit personal information to student. Students can request their academic transcript online but they have to participate in the Electronic Exchange Signature Authorization program. Financial services provide students with options for meeting their educational expenses (University of Franklin, 2003).

Arizona State University (ASU), the third largest public university in the United States offers a number of interactive services for student so they can take care of their studies from a computer. For student records and registration services, this service provide the opportunity for student to check their semester grades, class schedule, view or change their address or phone information, to check their immunization requirement status, to request or view their degree audit, to pay their account receivable balance by credit card, initialize or change their ASU Personal Identification Number, submit their pre-registration request form, submit their pre-registration request form and update their Social Security Number. To serve their student better, ASU provides registration forms online. All forms are available in PDF and Microsoft Word format. Financial Services provides student Social Security Number information. Student can view their financial aid information (FASTI) and tax credit information. ASU provides academic calendar online such as schedule of classes, public events, master calendar, ASU event calendar and final exam schedule. This system has given the opportunity to enhance the close interactions between the students and the administrators. (Arizona State University, 2003)

Another higher learning institute that implementing web-based student registration is University of Nebraska, Lincoln (UNL). The Information Services keeps student financial aid records, class registration, student records, student accounts and other UNL applications running smoothly. They manage campus-wide data integrity efforts; provide project management services; and coordinate the information technology architecture to efficiently and effectively create and/or support these UNL systems. (University of Nebraska, 2003)
Kenyatta University, in Nairobi, has become the first public institution in Kenya to offer online registration to its students. George Eshiwani (2001), the Vice Chancellor, announced that potential students in any part of the world will be able to register online through the institution website. Online registration, he said, would minimize the “risk, congestion and general chaos” that ensure when registration for the next semester opens. The online registration system was developed at a cost of $54,000 over a period of 6 months. Kenyatta was able to cut costs paying five of the university’s programmes at the Centre for Software Engineering $1,800 a month to develop the system. In addition, Kenyatta pays $250 a month for a computer system to host the online registration system. Kenyatta’s online registration system was developed from scratch by the centre for Software Engineering, without the aid of software vendors. So far, technical hitches have been kept to a minimum, though students registering online with Kenyatta may find their connection to be slow because of the limited amount of bandwidth the University can utilize. Nevertheless, the Director of Kenyatta’s Information and Communication Technical program, Jackson Odoto (2001), says the online registration system is a significant achievement for the University. (The Chronical of Higher Education, 18 September 2001)

According to Bart Binning (1999), the World Wide Web is a client-server technology that uses the Internet (and the TCP/IP network protocol) as a communication tool to easily and inexpensively disseminates customizable documents and other information on a worldwide basis. Apart from that, the Internet (or the National Information Highway) is a mechanism to transport message packets between users. The main reason of using World Wide Web is it has 24-hour access expands opportunities without the need for additional staffing. It also can be accessed anywhere. This is because any PCs that have Internet connection will be able to view the page. In online registration, student can register courses that will be taken from anywhere at anytime. They do not have to queue or wait for a long time until they have their turn to use the limited number of PCs. One of the downside of using World Wide Web is security concern. Even if the system
were secure, there would be someone else that has extra skill to hack the site. With online registration, the numbers of student to register each course are fixed. It means that there could be some students who fail to register the course will find a way to remove any of other student names from the list and replace it with their own name. Sometimes using password is not enough to prevent hackers from hacking.

2.3 FURTHER REVIEWS

Gary Chen and Otto Lee (1999) states that, web registration is to provide a readily accessible and user-friendly system for students to register for classes. This would be similar to the current U of I Direct system, but it features the following advantages; as a web-based system, students will be able to have access from any computer that has a web browser and is connected to the Internet and with a graphical interface, this system will be more user-friendly and intuitive to use. The introduction of online registration was an enormous improvement over the old, cumbersome paper-based method.

Web-based student registration is also implemented at Chinese School Association in the United States (CSAUS). The Chinese School Association in the United States (CSAUS) is a non-profit organization established in 1994 by Chinese School leaders and educators in the United States. The goals of CSAUS are to provide information, networking, services to member schools in promoting Chinese language and cultural education, helping the younger generation to preserve and appreciate Chinese heritage, bridging educational and cultural exchanges and friendship between USA and the People's Republic of China, and representing its member schools in marketing and maximizing organizational efforts to gain resources and supports from related institutions in the United States and from China. The objective of implementing the web-based student registration is to provide parents a convenient way to interact with school administrator and to provide school administration an easy and reliable tool for managing the school. The Online Management For
Chinese School (OMFCS) website consists of three parts: (a) Website Account, (b) Administration and (c) Registration. For web-based registration, they have provided a convenient way for parents to access their registration. Parents have an option to set a username and password for their registration accounts and they can come back anytime to modify the registration information. If the parents forgot their username/password, the parents can send a request and the system automatically sends the username and password to their email address (CSAUS, 1999).

Timothy Chester (2002) states that, a drastic change of technological direction would have to take place to enable the university not only to run more efficiently, but also to allow it to begin developing much-needed Web services. To find the right technology to solve the problem, Chester and his staff spent nearly three years studying the methods other large universities had employed, and evaluating their own technology options. In the end, it became clear that Extensible Markup Language (XML) was the best choice, because it would allow them to develop and integrate disparate systems regardless of the platform, language, or application server used. The first pilot involved erecting a simple Web page where students could check the status of their admission applications—a significant time-saver for a university dealing with about 25,000 applicants per year. A second pilot involved the development of a gateway through which the university’s 30,000 to 50,000 yearly prospective applicants could access information. The pilot tests proved successful, so the team moved on to a true test of its ability to provide far-reaching Web services—the development of a Web-based class registration system that would allow students to check class availability and enroll for classes. To create the system, the team built many business objects for functions such as adding a class to a student’s schedule, selecting the entire student’s schedule to display on the screen, and more. Other Web-based applications include a system that allows students to enroll and eventually pay for new student conferences, and an application that allows people to request catalogs, campus maps, and applications. The team started by engaging a team of Cobol programmers to strip the presentation data out of the phone-based system and build a set of functions and
subroutines that would support both Web and voice communications. The new Web interface complements the old registration system, which remains intact. Now that the system is operational, the Computing and Information Services division will move on to other Web services—something Chester says is fairly simple to do once the structure and business objects have been developed for the class registration system.

White (1997) reported on the problem of storing large amounts of information created, received, and processed every week by different departments in a university. The author suggests that Web-to-database interfaces fit in a campus service where large numbers of users require answers to the same questions. In this case a knowledge database that users can query can be set up on the Web. White further explains about CGI and server software that help the Web site communicate with the database.

Siva Kumar Kuruganti and Ghasem S. Alijani (n.d) have developed a prototype that is called as ‘Web-based Database for Student Registration System’. This project concentrated on the development of a Web-based student registration system that would alleviate the inherent problems by providing an efficient, fast, and effective registration process that is accessible through the Internet. Several advantages can be realized from this prototype. All the administrative departments involved in the registration process can integrate their functions to provide a comprehensive process that would enable the student to register for courses, pay the fees, and get the financial aid based on the eligibility. The prototype developed in this project provides an additional option of posting grades of the students on the University’s Web site, thus enabling the students to view their grades without having to come to the campus or access any cumbersome telephone-based processing systems. The full-scale model of this prototype will support students, administrative staff, and faculty of any educational institution in managing their time and resources effectively through on-line communication. The traditional registration process is mapped and is shown in the form of a node tree by Siva and Ghasem (See Appendix 2). Delays occur at the following points during the
Web and voice complements the tact. Now that the Web services—created for the storing large information—processed at a university. The interfaces fit in a way that require answers based database that are fit in a university. The interfaces fit in a way that require answers based database that are fit in a university. The interfaces fit in a way that require answers based database.

White further help the Web site Alijanii (n.d) have Web-based Database project concentrated student registration problems by registration process. Several advantages can be the administrative process as the prototype can integrate a process that would pay the fees, and get by. The prototype additional option of University’s Web site, admin without having some telephonale model of this administrative staff, and managing their time communication. ped and is shown in sem (See Appendix points during the registration process and these delays make the registration process time-consuming:

- At the advisor’s office for getting advised as to which courses the student has to register
- At the registration terminal for entering into the system
- For taking the printout of the registered courses to know what fees have to be paid
- At the financial aid office
- At the fee deferment office
- And finally at the cash counter

ISIS, the acronym for the University of Iowa, created online student course registration system, now has expanded user features and functions, and the graphics look common to today’s Web sites, replacing the monochromatic appearance users have grown accustomed to viewing. Iowa Student Information Services has been upgraded to ISIS on the Web, a new design that will make using the nearly 10-year-old registration system more user-friendly for students who have come to rely on it as a convenient alternative to class registration lines, to view courses and their U-bill. Students also will find it easier to send e-mail, and conduct UI Web-based searches among other uses. The site, which has several working features, is still under development and was designed by a team of Information Technology Services programmers led by Ed Hill and directed by Joel Wilcox, Office of the Provost. According to Wilcox (1999), the advantages of dynamic HTML is to give students a better view of information about their lives as students in a more developed and meaningful context (University of Iowa, 1999).

At Western Kentucky University (WKU), a web-based registration has been implemented on the 3rd October 2000. According to Freida Eggleton (2000), the Web registration has become the state-of-the-art method in higher education and they fortunate to be able to offer their students this opportunity. Western Kentucky University is using TopNet 2000 to replaced TOPLINE, a telephone voice response registration system that had been used for five years. The
University has found that students strongly prefer the web-based method of registration to the phone-based method. Students use the system to register for classes, drop and add courses, update addresses, to view a summary of charges and payments, and access other admissions, academic and financial aid information. Faculty members and advisors will use TopNet to access class rolls and other academic information. Eggleton said TopNet offers several advantages and functions that students will find helpful, including: Class search where students can search by subject, time of day, days of the week, campus site and instructor. The class search will identify courses that are full, restricted or cancelled; On-screen system where the students can see their transactions as they enter them and print a copy when completed; Easier access where students won't experience busy signals. Students can use their personal computer to access TopNet or use computers in WKU computer labs or other public sites; Extended hours where initially TopNet will be available from 7 a.m. to midnight Monday through Friday; Fee payments where it will allow students to pay tuition and fees online using a credit card (Western Kentucky University, 2000).

According to Douglas J. Bennet (2001), Web-based registration system in the Wesleyan University has put powerful tools for using the curriculum into the hands of students. Tested on more than 1,000 students, all the new students and those returning from leave said that, the system achieved its most important goal of enhancing close interactions between faculty advisers and their advisees. The Web-based system enables students to explore the curriculum through electronic searches based on keyword, time slot, emphasis on writing and other characteristics. The searches yield full course descriptions as well as links to faculty information and related courses. The system also provides continually updated data on the number of openings in enrollment-restricted courses. It enables students to reserve spots in courses and requires them to confirm their choices with a faculty adviser. Many students and faculty have told how the system supported more substantive discussions between advisers and advisees. An added feature to help students plan is a personal five-day electronic calendar that
strongly prefer the web-phone-based method. Classes, drop and add summary of charges and items, academic and non-academic advisors will several advantages several advantages, including: Class subject, time of day, sector. The class search ended or cancelled; Online their transactions as in completed; Easier busy signals. Students access TopNet or use other public sites; it will be available through Friday; Fee pay tuition and fees payable University, 2001), Web-based University has put into the hands of students, all the new said that, the system of enhancing close their advisees. They explore the curriculum keyword, time slot, characteristics. The searches as links to faculty system also provides ber of openings in students to reserve confirm their choices and faculty have told substantive discussions ed feature to help electronic calendar that visually shows how the week is filling up with academic commitments. Wesleyan University plans to continue the development of this interactive registration system and eventually make it available to all students. At the peak use period, Wesleyan's Web server was accessed 100,000 times during the day.

Safety is an issue that also concerns Garrett (2001). Security is always an essential part of any application, which has been implemented. University computing has been addressing Web security for a while now, along with implementing Degree Navigator. Degree Navigator is a Web-based degree audit program that helps students, staff and faculty to track a student's academic progress toward graduation. It can be accessed through the World Wide Web. The program helps users imagine 'what if' scenarios. In addition to providing course lists and progress reports, users can also view waivers and course substitutions online. It, combined with the planned Web-based registration, will make the registration process easier and more efficient.
CHAPTER 3
METHODOLOGY

3.1 INTRODUCTION
This chapter consists of the explanation regarding the design of the study, location of the study, population and sampling of study, instrumentation of the study, data collection and finally the data analysis.

3.2 DESIGN OF THE STUDY
This study was conducted based on a survey technique by using questionnaire. A questionnaire is a list of carefully structured questions, chosen after considerable testing, with a view to eliciting reliable responses from a chosen sample. The aim is to find out what a selected group of respondents do, think or feel. A positivistic approach suggested that close-ended questions should be used.

3.3 LOCATION OF THE STUDY
This survey was conducted in Institute of Business and Management Studies (IBMS College), Kuching.

3.4 POPULATION AND SAMPLING
The population of this study consists of the students and administrators in IBMS College. This group was chosen because they are directly involved in the process of registration in the organization. At the time that the study was carried out, the organization had around 2300 students and 20 administrators.
The sampling method used in this study was the simple random sampling. This method is used because a random selecting sample is drawn in such a way that every member of the population has an equal chance being included. Therefore, to avoid bias, every respondent must have a chance to be counted. To avoid slighting any respondents, even intentionally, the sample should be selected randomly.

Fraenkel and Wallen (1993) discussed the concept of a random sample and pointed out that obtaining a random sample is desirable because it helps to ensure that one's sample is representative of a larger population. When a sample is representative, all the characteristics of the population are assumed to be present by the sample in the same degree.

3.5 INSTRUMENTATION

A set of questionnaire (See Appendix 1) is used as a tool for data collection. The questionnaire, which consists of Section A, Section B, Section C, Section D and Section E) was developed by the researcher and it is divided into four parts:

Section A: Personal Data
Section B: Students' perception towards the services delivered
Section C: Administrators' perception towards the manual registration system
Section D: Students' perception towards the implementation of the Electronic Registration
Section E: Administrators' perception towards the implementation of the Electronic Registration

Section A is mainly focuses on the respondents' personal information. The questions in Section B were designed to solicit the information regarding the services delivered by the administrators. In Section C, questions were designed to solicit the information regarding the difficulties faced by the administrators in the registration process. In Section D, the questions were designed which intent to study the students' response towards the significance of implementing the