

Factors that affect students' decision to change their major to Management Information Systems in Gulf Regions

Dr. Ashraf Badawood

College of Business - MIS, University of Jeddah
Jeddah Kingdom of Saudi Arabia
ashrafbadawood@yahoo.com

Abstract. This research paper studies the trend of declining student numbers in the information systems program. Many existing academic studies have found various reasons that have contributed towards this downward trend, mainly negative perception of job prospects, salary and negative images towards information systems. However, this trend often changes after a year or so in universities, as many students tend to change their majors to information systems, especially in gulf regions. The findings of this study depicts that there are positive and negative aspects that contributes to students' change of majors, and these needs to be addressed by universities in order to bring in more students during the enrollment of the programs. Marketing and promotions are suggested, mainly to focus on providing information that is accessible and current, which could influence students' decision making process.

Keywords: Information systems, Gulf, Decline, Marketing.

1 INTRODUCTION

Students have been fairly consistent throughout the years in selecting majors that would be able to provide job opportunities, a good salary and the possibility of the highest rate of success (Kumar & Kumar, 2013). However, this pattern has changed in recent times in the field of Management of Information Systems (MIS). Although the field of information technology have been consistent with providing graduates job opportunities and high salary upon graduation, the response from students towards this field is relatively low (Wong, 2015; Akbulut-Bailey., 2011). Recent findings have shown a decrease in the number of students that are interested in majoring or choosing information technology as their major and career options (Wong, 2015; Akbulut-Bailey., 2011).

Apart from that, the field of management of information systems have also been consistent in reporting that in many countries, there still exists a need for technical and qualified labor to fulfill the job requirements, however the perception of the information systems have changed (Wong, 2015; Rouibah, 2012; Downey et al., 2011; Tabatabaei & Tehran, 2010). Recent surveys have showed that there is a drastic drop of more than seventy-five percent of new students' enrollment numbers due to perception of job unavailability, job outsourcing, economy situations as well as failure in websites (Wong, 2015). Moreover, Wong (2015) also found that students have a pre-conceived notion about the difficulty of the program and the fear of not being able to cope and keep up with the constantly changing demands and newer systems in the technology field.

Downey et al (2011) also reported similar findings that suggests that the declining trend is an occurrence in most universities around the world and is becoming a concern for many technology companies. Likewise, Tabatabaei and Tehrani (2010) discussed the fact that the decline in information systems popularity was due to the fact that there were many concerns on the outsourcing and off shoring of jobs to other countries that often gets students and their families thinking ahead about the future in this field. These findings have been consistent with findings from gulf countries, such as in Kuwait (Rouibah, 2012). The number of enrollment and graduates from MIS was declining drastically, and this has increased concerns over having enough number of skilled labor in this field. Table 1 below shows an example of actual figures over the past few years (Rouibah, 2012; p.59). This clearly shows the gap between other majors and MIS, which is quite a large gap.

On average, over the period of five years from 2007 till 2011, the number of students who have enrolled in MIS have been about five percent of the total number of students who enrolled.

Year	Total MIS Graduates	Total Graduates in Other Majors
2007	22	404
2008	11	460
2009	25	481
2010	28	443
2011	29	557

Table 1. Comparison between MIS and other major graduates (Rouibah, 2012; p.59)

2 RESEARCH PROBLEM

As discussed above, the number of students' who enrolled in information systems related majors and programs have dropped significantly in many countries despite the fact that it is one of the consistently high paying and secure fields to be in (Akbulut-Bailey., 2011). However, according to Rouibah (2012), the number of students who change their majors to information systems are relatively high in Kuwait, an Arab country. Therefore, there is a gap between the period of enrollment and the change of perception towards information systems in universities. Hence, the research question of this study is, "What factors affect students' decision to change their major to management of information systems?"

3 SIGNIFICANCE OF THE STUDY

This study aims to identify the factors that affect students' decision to change their majors to Management of Information Systems, specifically focusing in the gulf countries. This study also aims to contribute towards academic literature, as there are a lack of studies that have focused on this specific area of study. Furthermore, this study also focuses on identifying solutions to encourage students to choose this area of study as their primary study preference.

4 LIMITATION OF THE STUDY

This study has no primary data collection to further investigate and produce new results in this area of research. Furthermore, the data collected focusing on gulf countries is limited due to the lack of existing data in this area of study. However, this creates a need for further research in this specific area of study, targeting gulf countries.

5 PREVIOUS STUDIES

Studies have reported that close to fifty percent of first year students in universities are undecided about their major, and more than seventy-five percent of students change the chosen major at least once during their time in universities (Freedman, 2013). Some of the factors that cause this confusion for students includes influence of family and friends, initial perceptions and assumptions of a field of study as well as potential job related benefits and characteristics (Beggs et al., 2008). Besides that, a recent academic study reported that social support is a key element that motivates and influences students' towards positive acceptance of information systems related subjects and majors (Akbulut-Bailey., 2011). The study employed the use of the Social

Cognitive Career Theory to provide the basic framework for the study, which included elements such as personal, interest and social elements. Social perception of information systems, as well as perceived benefits and rewards from the field have a higher probability of encouraging students to choose information systems as their major.

Apart from that, the study also concluded that the importance of perceived expectations, personal interests to work independently as well as self-efficacy are some of the other key factors that could also increase students' motivation to choose information systems as a major in universities (Akbulut-Bailey., 2011). In another recent academic study conducted by Li et al (2014), the study found that positive reinforcements and promotions were successful in convincing students' and creating a positive perception about information systems programs in universities. Students' who were unsure or had negative views about the program, had changed their perception after getting more information on the program. Therefore, promotion strategies can be another factor that could increase enrollment numbers for information system programs (Li et al., 2014).

According to Tabatabaei and Tehrani (2010), the information systems program has been usually under the School of Business, and it usually comes under a Business major and degree. Information system as a subject has also been known as a value-added subject that could enhance businesses. Therefore, this creates confusion among students as to what MIS is and the purpose of studying it. Many students are unclear about the role of an information system professional and the job prospects of MIS studies (Tabatabaei & Tehrani, 2010). This trend is also true for universities in Kuwait, whereby MIS comes under the College of Business (Rouibah, 2012). On the other hand, a study by Ali and Shubra (2010) concluded that outsourcing of jobs in information technology and systems programs often raise concerns among students that they are not required upon completion of studies, and therefore, this will result in a waste of time and effort. The study used the case study method and focused on Indiana University of Pennsylvania to focus on how the university has made an effort to reverse the decline trend in the information systems program. The study concluded that the university focused its efforts on increasing the number of students by marketing its programs to school children as well as by making changes to its current programs.

Apart from that, Khodakarami and Chan (2013) exploratory study in Canada, focused on using marketing as a way of promoting the information systems to potential users. The study concluded that having flexibility, increasing the easiness to learn and accessibility to information were key determinants in convincing students to enroll in MIS programs. Furthermore, the information provided to students should be in an effective way that could achieve the target of creating awareness, and at the same time, meeting users' expectations. This was consistent with other studies that reiterated the need for information on information systems programs to be passed on to potential students (Beggs et al., 2008; Akbulut-Bailey., 2011; Li et al., 2014; Tabatabaei & Tehrani, 2010).

Kuechler et al (2009) found that one of the key factors that motivated students to take up information system programs was not whether or not the salary was high, the security of jobs and the influence of peers, but rather whether they were genuinely interested in the subject and whether there were job prospects upon graduation. These two factors were the critical points that influenced students' decision. Furthermore, the study also found a difference between male and female students' thinking and decision making process in terms of choosing information systems as a major. Female students were more concerned about factors such as image in terms of personal and social image, whereas male students were more concerned about peer pressure and family influences. Male students were also more likely to consult friends and get advice from family members. Hence, these factors should be taken into consideration when getting students to enroll in information systems programs, by ensuring that both sides of the factors are considered and marketed accordingly.

6 RESEARCH METHODOLOGY

This research paper will employ the use of qualitative research method that will focus on studying the social aspects of students' decision to choose MIS as a major (Myers, 1997). This study will also use the interpretive approach in order to understand the reasons behind why students choose to change their major, and to

understand what are the factors that change their perception, and why they change their perception towards MIS? (Pizam & Mansfeld., 2009). Interpretivism focuses on studying the social aspects of a situation, in this case the factors behind why students change their major to MIS, and to also analyze and understand the reasons behind this occurrence (Pizam & Mansfeld., 2009). Therefore the study of interpretivism is suitable for the purpose of this research paper. Furthermore, existing findings and data will be used to understand the different factors that have been identified in recent studies (Myers, 1997). Studies between the years of 2010 till 2016 has been specifically chosen to contribute to the findings of the study. Furthermore, studies that were focused on Gulf countries were chosen in order to fulfill the research question raised in this study.

7 THE RESULTS OF THE STUDY

Rouibah (2012) conducted a quantitative study for a period of three years with a total of a hundred and ninety-five participants. The study focused on identifying the motivations and barriers of choosing MIS as a major in Kuwait University. The study concluded with the following results table 2.

Motivations	Barriers
• Positive attributes of MIS	• Perceived difficulty/fear
• Lecturers characteristics	• Negative perception of lecturers
• Family and peer pressure	• Lack of self-motivation
• Self-motivation	• Lack of interest
• Personal interest	• Negative perception of potential job
• Job requirements	• Negative perception on job prospects
• Job prospects	• Low salary
• Salary	• Negative social influence
• Availability of information on MIS	• Potential anxieties
• Personal attitude	• Negative group perception
• Perception of fun classrooms	• General negative perception
• Sense of curiosity	
• Group behavior/decision	

Table 2. Motivations and barriers of choosing MIS (Rouibah, 2012).

The findings of this study has been reported to be consistent with other findings conducted in this area of study. Among the thirteen highlighted motivations, the positive attributes of MIS is one of the key factors that affects students' decision making process. This is consistent with findings from Hogan and Li (2010), Downey et al (2011) and Li and Thomson (2011), that also suggests that students perception of the importance and usefulness of MIS determines enrollments and major changes. Moreover, students were willing to take up MIS

due to the fact that they feel that MIS contributes towards the betterment of organizations and lives. Interestingly, students also choose MIS based on perceptions of lecturers that have characteristics such as being cool and interesting in class. Students want to learn in a more innovative and fun classroom setting.

Apart from that, social groups such as family and friends also have a positive impact towards encouraging students to take up MIS. This is also consistent with findings from Akbulut-Bailey (2011) that reported that social impacts have a positive push towards students' selection of MIS. Personality traits and opinions have also been found to be a significant factor that encourages students to take up MIS. Personal interest in information technology and systems, as well as self-motivation and positive attitude towards the subject, encourages students to enroll in MIS. This was also consistent with findings from Li and Thomson (2011), Walstrom et al (2008) and Ferratt et al (2010). The researcher also highlighted the fact that the inclusive culture of Kuwait that often includes family and friends, have a unique role in encouraging students enrollment since the opinions of friends and family plays a big part in the decision making process (Rouibah, 2012).

Job related motivators such as the future prospects of the job, the requirements and characteristics of the job, perceived salary range as well as the uniqueness of the job may also motivate students to change majors to MIS. When choosing a major, most students want to consider the salary range in the respective fields in order to make informed decisions. Students have concluded that the job should allow social interactions between clients and co-workers, have some technical aspects, good and fun working environments and have good job reputation in order to have an acceptable image to family and friends. This was consistent with findings from Ferratt et al (2010), whereby students highly factor in the future of working in the field as a consideration for choosing a major. Besides that, information availability on MIS is another motivator for students to choose MIS as a major. Students that found positive and relevant information on MIS, were more likely to opt for MIS than students who were not able to get much information. Sources of information ranged from reading online information and books, and few recommendations. Therefore, this increases the importance of providing relevant and useful information for students in order to aid their search on this area of study.

On the other hand, there were a few barriers that were identified by students when choosing MIS as a major. The first barrier was the perceived difficulty of the program, and the fear that one would not be able to cope with the subject requirements. This perception often comes from the pre-conceived notion that MIS would be a very technical subject, which would involve complex subjects that are constantly changing. This was consistent with findings from Downey et al (2011) and Li and Thomson (2011) which also reported that students generally avoid taking MIS due to perception of difficulty and fear of not being able to cope. Rouibah (2012) also reported that the lecturer's image and reputation in classes also play a major impact in students' decision making on taking up MIS. Tough grading systems are one of the concerns for many students, since many students want to maintain a consistent academic GPA.

Furthermore, students' personal traits such as lack of self-motivation and interest could also be other defining factors that deter students from choosing MIS as a major. For instance, some participants in the study reported that they would rather use technology to socialize rather than to study it. Apart from that, some students found that there were no future prospects in the field of information systems, and therefore, there was no reason to take up the course. Moreover, students also reported that a job in this field was not reputable as other fields, and this was a reason that deterred them from enrolling in MIS. Negative group perception was also another factor that influenced students' perception to study MIS. Other people's experience and opinions shape up the potential students perception on MIS. Furthermore, low salary in this field was also reported to be another factor that discouraged students to take up MIS. Some students had negative perception of the industry in general, and hence would not take up this program.

In conclusion, this study found relevant positive and negative factors that encouraged and discouraged students from taking up MIS in a gulf country. These factors have been consistent with other existing studies and have hence, provided an in-depth understanding of the factors behind students' decision making process.

8 RECOMMENDATIONS

According to Freedman (2013), universities should give students the flexibility to choose a major in the second year since this would give students the opportunities and ample of time to settle in and to explore and develop interest in a field of study that they are interested in. As discussed by previous studies, students initially decide based on available information and influences, and only tend to develop interest and understanding of different areas of studies in the second year, and therefore universities should give students the flexibility and option to choose a major in the second year. This can also enhance students' learning experience as students will be more engaged and be able to contribute towards professional and academic development (Jones, 2012).

Furthermore, Kuechler et al (2009) focus on gender differences should be taken into account when marketing programs to potential students, as well as to encourage students to change majors to information systems programs. As discussed earlier, there are significant differences in the way male and female students think, and the factors that they consider when making decisions pertaining to the preferred major to study. Therefore, universities in gulf regions should conduct a brief study to identify these different factors in order to identify these factors, and to then find ways of approaching students to enroll in information systems programs. The results depicted by Rouibah (2012) clearly mentions the need for universities to create a more accessible information system that will enable students to get all the information required, as well as the much needed flexibility and options for students to make informed decisions. Furthermore, the image of information systems programs and lecturers should be worked on in order to remove negative associations with the program. Universities in the gulf regions should also focus on pushing the job opportunities and high salary scales that information systems offer in order to lure students in the programs.

Apart from that, there is also a need for marketing to take place in universities, in order to promote the program to potential students. Often times, education fairs are a good way to spread out actual facts and information to families and friends that visit these fairs, in order to create a positive social environment to motivate and encourage students to enroll. As discussed by Kuechler et al (2009), male students tend to be motivated by perceptions of friends and families, and therefore, passing on program related information could help students to get a better idea and social support that could encourage them to join information systems program. This was also suggested by Li et al (2014) that found positive reinforcement, social support and promotions were an efficient way of increasing students' participation in the program. Creating the right strategy is also vital for universities to sell their programs.

9 CONCLUSION

The main research question raised in this paper was to identify the factors that affect students' decision to change their major to management of information systems. Based on the findings of this study, a few factors were identified. These factors were initial negative perception towards job prospects, program instructors and perceived level of difficulty. The reasons for this was due to negative social perception around the student, and personal issues about having to deal with a difficult and complex subject. However, students change their majors when they find out these perceptions were wrong. This usually happens only after getting a general idea about other students' who have joined the course, and when positive perceptions are created around the student. Therefore, this study suggest that universities should promote much needed information and facts about the programs and job prospects in order to encourage students' to enroll in this program in the first year.

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