The perceptions of business students regarding management information systems (MIS) programs

Patrick Hogan
Turner college of Business
Columbus State University

Lei Li
Turner college of Business
Columbus State University

ABSTRACT

Enrollment growth in information systems programs has been limited in recent years despite the fact that the job market for IS graduates remains strong. This paper validates and extends the work of Walstrom et al 2008 in a different academic setting. This study investigates why business students choose their major, how they perceive the MIS program, and where they learn information about the MIS program. Students in introductory IS classes participated in this study. Our research found that, when students choose their major, the career related issues are the number one concern, followed by students' interests toward the field of study. Our findings on students' perceptions on IS programs suggest that MIS, with its strong jobs outlook and competitive salaries, could attract additional students as MIS minors or double majors. Success in this endeavor may require extensive communication of the benefits of MIS career opportunities. Some implications of our findings are discussed.

Keywords

MIS Enrollment, Choice of Major, Student Perception of IS programs.

Introduction

Demand for the technology worker is intensified by the fact that every product and service provided by today's society depends on productive, high-quality information systems. MIS managers in business are particularly concerned about the low level of college enrollment in computer and information systems. Fear of job loss resulting from downsizing and IT outsourcing has discouraged many people from entering the IS field. However, the overall job market for MIS professionals has remained strong, and represents one of the main occupational growth areas for the next decade (Hecker 2005, US Department of Labor ,2007). As a result, IS professionals with the right set of skills are becoming increasingly scarce. The most desirable skills are not always technical. There is a great need for people with interpersonal skills to work with clients and for people who can analyze business processes and apply technology to them. While there are fewer IS graduates, business demand for systems analysts is growing (Baker and Kripalani, 2004).

In order to attract more business students to the IS discipline, it would be helpful to more fully understand the process by which students select career choices, and under what circumstances might they change academic majors. Research in other disciplines have shown that a lack of understanding may occur between faculty and practitioners about why students may shun a given major (Albrecht and Sack, 2000). This experience suggests that IS researchers should not presume to know what business students are thinking, but instead we should collect actual data on student perceptions. Fortunately, there has been recent research that has examined the process of student career choice and why students are not majoring in information systems (Walstrom, Schambach, Jones and Crampton, 2008). This study extends the work of Walstrom et al. 2008 in two ways: first, In addition, Walstrom et al. draw their participants from a large public university, while the respondents in this study are from a medium size state university that contains large portion of non-traditional students[1]. We want to verify if Walstrom et al.'s finding holds in a different setting; Secondly, our study focuses on the student perceptions of IS programs so that researchers can better understand how to appeal to other business students and convince them to add/change their field of study to a major in IS.

Several of the relevant factors regarding student career choice identified by Walstom, et al (2008), and examined more fully in this study are listed in table 1.

Factors	Detailed Descriptions
Career related factors	Job prospects - probability of working after graduation in local market
	Starting salary and long time salary prospects

---

[1] We define non-traditional student as the one who attend school while work full time.

Personal interest factors	Personal interest in the subject matter
	Ease of subject matter to the students
Social & referent factor	Prestige of the profession

Table 1. Important Factors to Students when They Pick Their Major (Adapted from Walstom et al., 2008)

Methodology

A questionnaire was constructed and administered to business students enrolled in an introductory MIS courses designed for sophomores and juniors at a medium-sized public university in the southeastern USA [2]. The survey is anonymous and participation in the survey was voluntary.

The questionnaire used in this study was designed to gather four types of data from respondents: (1) demographic information about respondents, (2) factors concerning their choice of major, and (3) attitudes towards the MIS major for all majors, (4) where do the participants learn the information about MIS program.

In the survey, participants were asked to indicate why they choose their majors by selecting any relevant factors listed. The authors calculated a percentage for each factor based on the number of selections from participants. Participants were also asked to specify their perceptions of MIS program using a 6-point Likert-type scale. Pedhazur and Pedhazur-Schmelkin (1991) consider a five, six, or seven point Likert scale appropriate for survey research. The authors chose a 6-point Likert scale for this study. For above two survey questions, the respondents have an option to list answer that is not covered by the survey.

Research Findings

A total of 149 responses were collected from students enrolled in the introductory MIS courses. 146 responses are indentified as valid. Descriptive statistics reporting mean values was the primary statistical analysis method used in this study.

Student Demographic Data

Table 2 shows the demographic data of the participants. A.majority of the respondents are sophomores and juniors. The gender split in the survey sample is similar to the overall university population with 58% female and 42% male. A large portion of participants (38.2%) is non-traditional students who have full time jobs while attending school. This is consistent with overall university population distribution.

Classification	Freshman :7.5%	Sophomore : 23.8%	Junior: 51%	Senior: 17.7%
Job Status	Full time: 38.2%	Part time: 41.0%	Not working: 20.8%	
Gender	Male: 42%		Female: 58%	

Table 2. Students Demographic Data

The distribution of respondents by major is illustrated in table 3. All respondents already picked their major. Most of the students identified themselves among the traditional majors: Accounting, Finance, Marketing, Management and MIS. It is interesting that the MIS majors represent the smallest group. However, a large number of students, 27 (18.5%), identified themselves as General Business majors. This major is often selected by students who wish to be in the College of Business, but who may remain undecided about their business specialty. This group will be analyzed more fully in a later section.

---

[2] The participants are drawn from three sections of IT skill classes and three sections of principle to IT classes. The IT skill class is the pre-requisite of the principle class. Thus, no students take the survey twice.

Major	Number of Respondents	Percentage
Accounting	26	17.8%
Finance	19	13.0%
Marketing	26	17.8%
Management	35	24.0%
MIS	13	8.9%
General Business	27	18.5%
Total	146	100%

Table 3. Distribution of Respondents by Major

Table 4 shows the age distribution of respondents by their majors. Interestingly, respondents from MIS major are considerably older than other respondents from other majors: 54.6% of MIS respondents are 25 years old or older, while the percentage for other major ranges from 10.5% to 36%. This seems to indicate IS program probably should employ a strategy to attract young students.

Age Groups	Accounting	Finance	Marketing	Management	MIS	General Business	Average
< 25	64%	89.5%	76.95%	85.71%	45.4%	76.9%	75.87%
>25	36%	10.5%	13.05%	14.29%	54.6%	23.1%	24.23%
Table 4. Students' Perception of MIS Major							

What is Important to Students When They Choose a Major

Table 5 shows the factors important to students in the process of choosing a major. The data is organized by factor and by major. The factors were chosen from three of the categories proposed by Walstom et al (2008), career related (A & B), personal interest (C & D), and social and referent (E) as noted above. In general, the most selected factors by students when they choose their majors are career related issues. The second important group of factors is related to personal interest. The social and referent factor are least considered when students pick their majors.

Respondents from Accounting and MIS majors have highest selections on career related factors, while respondents from General Business have the lowest selections. This seems to indicate that General Business students may not be satisfied with the careers and salaries available in the jobs that are available upon graduation. With regards to academic ease of the major, it is interesting that the two majors that rank the career related issue with the highest (Accounting and MIS) are not perceived as easy by the respondents. 30.77% of respondents from MIS major choose their major because of "The major sounded interesting and cool". This is greater than the average value (22.8%). Finally, in terms of prestige of profession, Marketing scored the highest followed by Accounting and MIS.

Factors to Choose A Major		Accounting	Finance	Marketing	Management	MIS	General Business	Average
Career related factors	The job prospects for the major are promising	76.92%	52.63%	57.69%	65.38%	69.23%	48.15%	57.04%
	The major has well paid jobs	53.85%	52.63%	57.69%	61.54%	61.54%	29.63%	48.3%
Personal interest factors	The major sounded interesting and cool	30.77%	10.53%	57.69%	11.54%	30.77%	7.41%	22.8%
	The major seems easy to study and graduate	3.85%	5.26%	19.23%	7.69%	0.00%	18.52%	9.40%
Social & referent factor	I always want to work in this field when I was young	11.54%	26.32%	15.38%	23.08%	7.69%	11.11%	15.4%

Table 5. Reasons that Students Choose Their Current Major

Note: The numbers in the cell refer to the percentage of respondents selecting a particular factor, e.g., 76.92% of accounting students selected the factor "The job prospects for the major are promising".

Students' Perceptions of the MIS Major

Table 6 shows the perceptions of students from all majors relating to the MIS major. These perceptions can be helpful in choosing which majors might be more/less responsive to an appeal to add/change their field of study to a major in MIS. Again, the data is organized by factor and by major. As in the preceding set of questions, the factors were chosen from three of the categories proposed by Walstom, et al (2008), career related (A & B), personal interest (C & D), and social and referent (E) as noted above. The factors with the highest degree of interest across all majors were career related issues, in particular the perception that MIS would make them more competitive even in their current careers. The highest ranking majors in the career questions were Accounting, Marketing and Management. This may indicate that these students may be receptive to considering a MIS minor or a dual major with MIS.

With regards to academic ease of the major, it is interesting that the two more quantitative majors, Accounting and Finance, perceived the MIS curriculum to be easier than the perception of the other majors. All the majors scored MIS the lowest on long-term interest, again indicating that they may have become aware of the MIS program only recently. Finally, with regards to prestige of profession, Accounting scored the highest followed by Management. One last comment regarding General Business students who scored at or below the average on all five questions. They seem to perceive the MIS career with some promise, but they do not display much of an interest in the field. It is possible that they may not be aware of all the attractive aspects of the MIS position and career path. Recall that the General Business majors were not excited about their own major as discussed above, and some of them could perhaps be receptive about the MIS major if more fully educated about the MIS opportunities.

Students' Perceptions of MIS Major	Accounting	Finance	Marketing	Management	MIS	General Business	Average
I'm not a MIS student, but MIS courses can make me more competitive in the job market	4.40	3.80	4.42	4.35	N/A	3.92	4.23
MIS graduates have good and well-paid jobs	4.36	4.07	4.29	4.03	4.38	3.69	4.19
MIS major sounded interesting and cool	3.82	3.13	2.82	3.52	4.00	3.00	3.38
MIS seems easy to study and to graduate with	3.41	3.13	2.48	2.61	2.92	3.00	2.9
I always wanted to work in MIS field when I was young	2.24	1.54	2.00	2.14	3.27	1.62	2.12

Table 6. Students' Perception of MIS Major

Note: Respondents are asked to rank the importance of the factors based on 1-5 scale (1-least important, 5 –most important). The average value of responses is calculated. The respondents can select "Not available" if they think a factor does not apply to them.

Where Students Learn Information about MIS Program

Table 7 lists the major resources that students learn information about the MIS program. The number one source is from MIS classes and MIS faculty. The second major source is from their fellow students. While the Internet is a major tool for people to search information, only 3.42% of students get information about the IS program from the Web. To facilitate connection between MIS program and current students, more effective communication channels are needed.

Sources Where Students Learn Information about MIS Program	Percentage
A. From MIS courses and faculty	62.58%
B. From fellow students who major in MIS	19.73%
C. From career counselors at the Career Center	11.56%
D. From the college of business Student Services Center	8.16%
E. Internet/websites	3.42%

Table 7. Sources Where Student Get Information about MIS Program

Discussion

The purpose of this study was to explore the student perceptions of MIS programs so that researchers can better understand how to appeal to other business students and convince them to either add or change their field of study to a major in MIS. The results suggest the following about the various academic majors in Business:

- Accounting – Accountants regard their own profession with high career potential and moderately high in prestige. They also perceive the MIS profession to have high career potential and high prestige, as well as making them more competitive in their own profession. This group may have the potential to become MIS minors or double majors in MIS.
- Finance –Finance majors regard their own profession with moderately high career potential and only moderate in prestige. They perceive the MIS profession to have only moderate career potential and only moderate prestige. They do not view MIS as making them more competitive in their own profession. This group is considered unlikely to become MIS minors or double majors in MIS.
- Marketing – Marketing majors regard their own profession with moderately high career potential and very high in prestige. They perceive the MIS profession to have moderate career potential and moderate in prestige. The good news is that they perceive MIS skills as making them very competitive in their own profession. This group may also have the potential to become MIS minors or double majors in MIS.
- Management – Management majors regard their own profession with moderately high career potential and low in prestige, but the career has held a high interest for some time. They perceive the MIS profession to have moderately high career potential and moderate prestige, as well as making them more competitive in their own profession. This group may have the potential to become MIS minors or double majors in MIS.
- General Business – The General Business students shows unique ambivalence about their major field of study. This may be explained by uncertainty or lack of commitment to their major. They regard their own profession with low career potential and low in prestige. However, they perceive their major as the easiest to study. They also perceive the MIS profession to have moderate career potential and moderate prestige, as well as making them only marginally more competitive in their own profession. This group may have the potential to transfer to MIS as a major, but will require more education on the MIS field.

Conclusions and Limitations

The research results support the importance of these three attributes related to the process by which students select academic majors in the school of business and related career choices. These findings validate and extend the exploratory research of Walstrom et al., 2008 in a different academic setting. Each of these factors was considered important to undergraduate business students. The attributes related to career related factors were considered very important to students we surveyed. These findings indicate that the availability of jobs in the local market, good starting salaries, and a viable career path have a positive impact on the academic major selected by most undergraduate students. Additionally, the personal interest and ease of subject matter attributes were less highly valued factors. These findings suggest MIS, with its strong jobs outlook and competitive salaries, could attract additional students as MIS minors or double majors. Success in this endeavor may require extensive communication of the benefits of MIS career opportunities, and using current faculty and recent graduates tell the MIS story would build on the importance of the social and referent factors. Additional communication channel such as creating an interesting and information website or a social network page could also be helpful.

A major limitation of this study stems from the relatively small sample size. It is large enough to provide representation, but too small to allow further statistical exploration. We plan to extend this study by collecting more data in the future semesters to further validate our research findings. We also plan to investigate why MIS students are generally older than the students in other business majors are. Another possible topic for further research is to gather information about the business students' interest in MIS minors or double majors. Additional research is also needed to further understand the potential for a change of major to MIS from the somewhat ambivalent General Business majors.

References:

Albrecht, W. S., and Sack, R. J. (2000). "Accounting Education: Charting the Course Through a Perilous Future," *Accounting Education Series*, Vol. 16, Sarasota: American accounting Association.

Baker, S., and Kripalani, M. (2004) "Software: Will Outsourcing Hurt America's Supremacy?" *Business Week*, March 1, pp. 84-95.

Hecker, D. E. (2005) "Occupational Employment Projections to 2014," *Monthly Labor Review*, Vol. 128, No. 11, November, pp. 70-101.

Pedhazur , E. J. and Pedhazur-Schmelkin, L. (1991) Measurement, Design and Analysis: An Integrated Approach, Lawrence Erlbaum Associates, Publishers: Hillsdale, New Jersey.

US Department of Labor (2007), Occupational Employment Report, *Occupation Outlook Quarterly*, available at http://www.bls.gov/opub/ooq/2007/fall/art02.pdf.

Walstrom, K. A., Schambach, T.P., Jones, K.T. and Crampton, W.J. (2008) "Why are Students Not Majoring in Information Systems?" *Journal of Information Systems Education*, Vol. 19 No. 1.