Declining MIS Enrollment: The Death Of The MIS Degree?

Gary Saunders, Marshall University, USA
T. Maurice Lockridge, Marshall University, USA

ABSTRACT

There is little doubt that enrollments in MIS degree programs have been declining since the recession in the technical industry in 2001. Reagan's research (2008) indicates that enrollments in MIS degree programs is only about 25% of the 2001 level. Many MIS (IS) programs have been abandoned or combined with other related programs. While many reasons for this decline have been advanced, one of the most tenable reasons is a perception gap between what IT professors believe is important and what potential employers see as important skills for new hires. This study reports the results of a survey of MIS graduates of a medium size university in the midwest. Results suggest that graduates share the views that a perception gap exists. They tend to believe that their program needs to become more aligned with the needs of employers. Graduates believe that business leaders should be involved more closely in determining the direction and content of their program.

Keywords: MIS Enrollment; MIS Graduate Satisfaction

INTRODUCTION

There is little doubt that enrollments in MIS degree programs have been declining since the recession in the technical industry in 2001. Reagan's research (2008) indicates that enrollment in MIS degree programs is only about 25% of the 2001 level. Many MIS (IS) programs have been abandoned or combined with other related programs. While many reasons for this decline have been advanced, one of the most tenable reasons is a perception gap between what IT professors believe is important and what potential employers see as important skills for new hires. Trauth, Farwell, and Lee (1993) found this gap in their study where employers placed greater value on the "soft" business and interpersonal skills. Yew (2008) recommended that MIS programs include internships and partnering with community colleges as ways to improve the curriculum and, presumably, increase enrollments.

Lindberg (2007, pp. 623-644) has stated that higher education "must worry about the employability of the graduates and the efficiency of the system, even though priority is placed on making the system available for the masses." This study reports the results of a survey of MIS graduates of a medium size university in the midwest. Results suggest that graduates share the view that a perception gap exists and share Lindberg's view that more emphasis needs to be placed on employability. They tend to believe that their program needs to become more aligned with the needs of employers. Graduates believe that business leaders should be involved more closely in determining the direction and content of their program.

THE QUESTIONNAIRE

A survey instrument was designed and emailed to 599 graduates of the Lewis College of Business program in Management Information Systems (MIS) at Marshall University. Two hundred and thirty email addresses were no longer valid resulting in 369 questionnaires delivered. The questionnaire contained 29 questions and statement response items. One portion of the survey instrument was from a questionnaire developed by Saunders and Stivason (2010) and a second part was adapted from questionnaires used by other academic institutions.

RESULTS

Forty-two responses were received yielding an 11.4 percent response rate. This compares with a response rate of 26.4 percent for accounting graduates, which was the highest response rate of all of the major areas. This relatively low response rate may indicate a level of dissatisfaction with their degree program. Although the response rate is low compared with response rates of graduates in other major areas it is within the range for responses to that of other survey's [The University of Washington Business School published results of their alumni survey (2006) with a "excellent" response rate of 22 percent and indicated that the national average is between 10 and 20 percent.]. Twelve (28.6%) of the respondents requested copies of the results.

The statements contained in the questionnaire and the responses in each category are shown in appendix I. The average year of graduation was 2003 and the average age when the survey was conducted (2009) was 31. This indicates that the average age at graduation was 25. The oldest respondent was 86 years old and the youngest was 22. Only 21.4% of the graduates entered a graduate program upon completion of the undergraduate program.

On average graduates of the MIS program searched for three months after graduation before obtaining their first position. However, almost 31% of the graduates had obtained their first professional position before graduation and 56% had obtained a professional position within three months of graduation. The National Center for Education Statistics conducted the Baccalaureate and Beyond (B&B) survey for students who received their bachelor's degrees in 1992-93 or 1999-2000. This study showed that 27.3 percent of all students were unemployed three months after graduation with an additional 13.1 percent only worked part time. MIS graduates responding to the survey were not doing as well as the national average for all students. The Destinations of Leavers from Higher Education Survey (D*LHE*) is carried out by the Higher Education Statistics Agency (HESA) in the UK for the 2000/01 academic year shows that six months after graduation 71% of all business school graduates seeking employment were successfully employed on a full time basis. This is greater than the success rate for the current study of our MIS students. Remarkably, slightly more than 40% searched for one year or more before obtaining their first position and graduates obtained positions in a number of different areas, many outside the MIS field.

Respondents were asked how many times they had changed companies in their careers and, remarkably, 36% had never changed companies. Another 24% had changed companies one time and another 14% had changed two times. On average graduates had changed positions one and one-half times in the six years since their average graduation year of 2003; this suggests that graduates changed jobs every 4 years.

Graduates were asked if they were satisfied with the progression of their career. Remember, on average they had been graduated for less than seven years. Slightly more than 78% of the graduates were satisfied with the progression of their careers. That indicates that they have achieved a measure of career success. Respondents were asked if they believed their education at Marshall adequately prepared them for their career and 83.3% responded affirmatively, a great vote of confidence in their MIS program. Seventy-eight percent indicated that they would recommend the MIS program at Marshall to their children or friends, another vote of confidence.

A series of statements asked the graduates to evaluate their program on a number of factors. One statement said "my program could be improved by placing more emphasis on career oriented learning." A somewhat surprising 85.7% agreed with the statement and one third strongly agreed. Another statement said "more input from business leaders about the *direction* of my program would result in an improvement." Slightly more than 90% of the respondents agreed with the statement and 26.2% strongly agreed. A third statement said "more input from business leaders about the *content* of their program would result in an improvement" and slightly more than 95% agreed. Twenty-eight and one-half percent of the respondents strongly agreed. Continuing in the same vein a statement said "faculty teaching in my program should work more closely with business leaders." A total of 92.8% agreed with the statement. The last statement dealing with the MIS program said "my program had a good balance of conceptual and practical study." The average response was between "no opinion" and "agree somewhat" indicating that graduates were not ready to endorse the balance of conceptual and practical study. This is supported by the strong endorsement of more involvement by business leaders which, presumable, would change the balance.

The last series of questions related to how effective the university experience was in improving certain personal traits. These traits were:

- Developing critical thinking ability,
- Developing a sense of ethics,
- Contributing to a greater understanding of people with different backgrounds, habits, values, appearances, and abilities,
- Helping to become a more active citizen, and
- Improving the quality of your life aside from financial benefits.

As can be seen in appendix I, responses to each of these questions was basically "moderately helpful" suggesting, perhaps, that these items were less important to respondents than were job skills.

RELATIONSHIPS

Nonparametric Kendall's tau b coefficients were calculated for the relationships between the different items in the questionnaire. The results of these tests for correlations are detailed in Table 1. There was a significant negative (0.003) relationship between how long it took to obtain the first position and current income; and a significant positive (0.006) relationship between the opinion that faculty should work more closely with business leaders and current income. As seen in the questionnaire shown in appendix I, "yes" responses were coded as "1" and "no" responses as "2." Responses to whether graduates believe their education at Marshall adequately prepared them for their career were significantly (0.002) related with whether they would recommend the MIS program at Marshall to their children or friends. Again, "yes" responses were coded as "1" and "no" responses as "2." These relationships suggest that graduates are consistent in their approval and support for the MIS program.

SUMMARY

Results of the survey cast the MIS program in a less than favorable light. More than 31% of the respondents obtained employment before graduation and 56% were employed within three months of graduation. These employment numbers are lower than those reported in other studies. One study in the US showed that 60% of graduates were employed full time three months after graduation. Another in the UK found that 71% of business graduates found full-time employment within three months of graduation. Additionally, slightly more than 40% searched for one year or more before obtaining their first position and graduates obtained positions in a number of different areas, many outside the MIS field. Despite these employment numbers, 79% of the respondents indicated that they were satisfied with the progression of their careers. When asked if they believed their education at Marshall adequately prepared them for their career, 83% responded affirmatively and 78% said they would recommend the MIS program at Marshall to their children or friends.

Interestingly, though graduates expressed satisfaction with the program, when asked to evaluate the program they agreed with the survey questions 15, 16, 17, and 18 relating to the direction of the MIS program. These responses suggest that a more career oriented program with more input from business leaders would serve the graduates better. Most of the comments related to a perceived need to make the program more relevant by involving business leaders in the program development. Many comments recommended an internship as part of the program. These suggestions from graduates are in line with the results and recommendations of the Trauth, et. al. study and the Yew recommendations mentioned earlier. If MIS programs are going to survive, apparently major changes must be made in the curricula in coordination with business leaders and the more career oriented community colleges.

AUTHOR INFORMATION

Gary Saunders, DBA, CPA earned his doctorate at the University of Kentucky in 1977. He joined the faculty at Marshall University in 1990 and is currently Professor of Accountancy and Elizabeth McDowell Lewis Chair in the LCOB at Marshall. Dr. Saunders has published extensively and has authored two accounting simulation textbooks, a cost accounting textbook and a spreadsheet textbook. He operates Integrated Business Systems, a publishing company.

T. Maurice Lockridge, PhD, CPA earned his doctorate at the University of Memphis in 2004. He is currently an Assistant Professor of Accountancy in the Lewis College of Business at Marshall University where he teaches accounting at the introductory as well as the graduate level.

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APPENDIX I

Lewis College of Business
MIS Graduate Survey Questionnaire

We, the faculty of the Lewis College of Business, are very interested in our graduates and would like to obtain information about your career success, your opinions of our program and suggestions for improving our program. This information will also assist us in maintaining AACSB accreditation. So, responding to this questionnaire will serve a number of purposes. We thank you in advance for your participation.

1. What year did you graduate?

Average = 2003
N = 42

2. What is your present age?

Average = 31
N = 42

Part 1

3. When you obtained your undergraduate degree did you enter a graduate program?

Yes	No
9	33

Average = 1.79
N = 42

4. If you did not enter a graduate program how long did it take you to obtain your first professional position?

Before Graduation	1 Month After	2 Months After	3 Months After	6 Months After	1 Year After	Longer
12	5	1	4	0	5	12

Average = 2.97 ~ 3 months

5. What type of firm was your first professional position with?

Public Accounting	Industrial Firm	Government Position	Service Firm	Retail Firm	Consulting Firm	Other
0	3	7	12	4	3	11

6. Please describe your first professional position below indicating your entry level designation. If "Government" please include the branch, or agency, of the government.

Part 2

7. Please describe your current career level.

8. Please describe your career level *five* years after obtaining your undergraduate degree.

9. Please describe your career level *ten* years after obtaining your undergraduate degree.

10. How many times have you changed companies after obtaining your undergraduate degree?

None	1 Time	2 Times	3 Times	4 Times	5 Times	More than Five Times
15	10	6	6	2	3	0

Average = 1.50 ~ 1 ½ times

11. Are you satisfied with the progression of your career?

Yes	No
33	9

Average = 1.21 - Yes = 1, No = 2

12. Do you believe that your education at Marshall adequately prepared you for your career?

Yes	No
35	7

Average = 1.17 - Yes = 1, No = 2

13. Would you recommend your degree program at Marshall to your children or friends?

Yes	No
32	9

Average = 1.31 - Yes = 1, No = 2

13A. If "No" please give your reasons below.

Please evaluate your program on the following factors:

14. My program prepared me for my career.

Strongly Disagree	Disagree	Disagree Somewhat	No Opinion	Agree Somewhat	Agree	Strongly Agree
3	2	5	0	17	9	5

Average = 4.78 ~ **Agree Somewhat**

15. My program could be improved by placing more emphasis on career oriented learning.

Strongly Disagree	Disagree	Disagree Somewhat	No Opinion	Agree Somewhat	Agree	Strongly Agree
1	1	1	3	9	13	14

Average = 5.69 ~ **Agree**

16. More input from business leaders about the *direction* of my program would result in an improvement.

Strongly Disagree	Disagree	Disagree Somewhat	No Opinion	Agree Somewhat	Agree	Strongly Agree
0	1	0	3	8	19	11

Average = 5.83 ~ **Agree**

17. More input from business leaders about the *content* of my program would result in an improvement.

Strongly Disagree	Disagree	Disagree Somewhat	No Opinion	Agree Somewhat	Agree	Strongly Agree
1	0	0	1	8	20	12

Average = 5.93 ~ **Agree**

18. Faculty teaching in my program should work more closely with business leaders.

Strongly Disagree	Disagree	Disagree Somewhat	No Opinion	Agree Somewhat	Agree	Strongly Agree
0	0	0	3	10	20	9

Average = 5.83 ~ **Agree**

19. My program had a good balance of conceptual and practical study.

Strongly Disagree	Disagree	Disagree Somewhat	No Opinion	Agree Somewhat	Agree	Strongly Agree
1	0	11	4	17	7	2

Average = 4.55 ~ **No Opinion to Agree Somewhat**

In your view, how effective were your University experiences in the following areas:

20. Helping you to better develop your critical thinking ability?

Not Helpful	Slightly Helpful	Moderately Helpful	Very Helpful	Extremely Helpful
1	3	13	19	5

Average = 3.59 ~ **Moderately to Very Helpful**

21. Helping you to better develop your sense of ethics?

Not Helpful	Slightly Helpful	Moderately Helpful	Very Helpful	Extremely Helpful
7	5	15	12	3

Average = 2.98 ~ **Moderately Helpful**

22. Contributing to a greater understanding of people with different backgrounds, habits, values, appearances, and abilities?

Not Helpful	Slightly Helpful	Moderately Helpful	Very Helpful	Extremely Helpful
4	6	12	12	8

Average = 3.33 ~ **Moderately to Very Helpful**

23. Helping you to become a more active citizen?

Not Helpful	Slightly Helpful	Moderately Helpful	Very Helpful	Extremely Helpful
8	12	12	6	4

Average = 2.67 ~ **Slightly to Moderately Helpful**

24. Improving the quality of your life aside from financial benefits?

Not Helpful	Slightly Helpful	Moderately Helpful	Very Helpful	Extremely Helpful
6	9	14	11	2

Average = 2.79 ~ **Slightly to Moderately Helpful**

25. What is your annual income before taxes in your current job?

Less than $25,000	$25,000 - $39,999	$40,000 - $59,999	$60,000 - $99,999	$100,000 - $149,999	$150,000 - $199,999	$200,000 - $299,999	More Than $299,999
5	7	8	18	2	1	0	0

Average = 3.20 **~ $68,000**

26. Please tell us what the major strengths of your program were.

27. Please tell us what the major weaknesses of your program were.

28. Please tell us how we can improve your program.

29. Please give us your comments.

Thank you for your help.

Table 1
Lewis College of Business
MIS Graduate Survey Questionnaire
Kendall's tau b Correlations

		Q1	Q2	Q3	Q4	Q5	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
Q1 Graduation Year	Correlation Coefficient	1.000																				
	Sig. (2-tailed)	.																				
	N	42																				
Q2 Age	Correlation Coefficient	-.573	1.000																			
	Sig. (2-tailed)	.000	.																			
	N	42	42																			
Q3 Graduate Program	Correlation Coefficient	-.078*	.053	1.000																		
	Sig. (2-tailed)	.553	.686	.																		
	N	42	42	42																		
Q4 First Position	Correlation Coefficient	.169	-.056	.177	1.000																	
	Sig. (2-tailed)	.167	.640	.205	.																	
	N	40	40	40	42																	
Q5 Type Position	Correlation Coefficient	.217	-.160	.140	.140	1.000																
	Sig. (2-tailed)	.077	.185	.266	.275	.																
	N	41	41	42	39	42																
Q10 Changed Companies	Correlation Coefficient	-.096	.052	.079	.071	-.098	1.000															
	Sig. (2-tailed)	.425	.663	.564	.524	.438	.															
	N	42	42	42	42	41	42															
Q11 Satisfied	Correlation Coefficient	.099	.092	.268	-.513	.238	.028	1.000														
	Sig. (2-tailed)	.452	.480	.061	.000	.075	.836	.														
	N	42	42	42	40	42	42	42														

Table 1 (cont)
Lewis College of Business
MIS Graduate Survey Questionnaire
Kendall's tau b Correlations

		Q1	Q2	Q3	Q4	Q5	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
Q12 Adequately Prepared	Correlation Coefficient	-.173	.320	.078	.348	.000	.120	.234	1.000													
	Sig. (2-tailed)	.201	.017	.618	.015	1.000	.393	.135	.													
	N	42	42	42	39	40	42	42	42													
Q13 Recommend	Correlation Coefficient	.104	-.092	.183	.186	-.076	.033	.410	.476	1.000												
	Sig. (2-tailed)	.426	.478	.195	.179	.566	.808	.004	.002	.												
	N	43	42	42	40	42	42	42	42	42												
Q14 Prepared for Career	Correlation Coefficient	.203	-.184	.052	-.103	.064	-.101	.008	-.602	-.234	1.000											
	Sig. (2-tailed)	.095	.127	.690	.425	.601	.426	.953	.000	.082	.											
	N	42	42	42	39	42	42	42	41	42	42											
Q15 Career Learning	Correlation Coefficient	.088	.104	-.089	-.255	-.082	.173	.066	.080	.152	-.177	1.000										
	Sig. (2-tailed)	.468	.386	.523	.047	.524	.170	.634	.574	.269	.153	.										
	N	43	42	42	40	41	42	42	42	42	42	42										
Q16 Input About Direction	Correlation Coefficient	-.279	.075	.125	.138	.031	-.005	.212	.153	.166	-.199	.385	1.000									
	Sig. (2-tailed)	.026	.544	.387	.302	.817	.971	.142	.289	.246	.134	.004	.									
	N	42	42	42	39	40	42	42	42	42	41	42	42									
Q17 Input About Content	Correlation Coefficient	-.134	-.044	.150	.173	-.120	-.194	.036	.045	.177	-.270	.173	.664	1.000								
	Sig. (2-tailed)	.292	.723	.276	.199	.375	.142	.804	.757	.222	.044	.196	.000	.								
	N	42	42	42	30	40	42	42	42	42	41	42	42	42								
Q18 Work Closely With	Correlation Coefficient	-.197	.089	.122	.029	-.080	-.165	-.093	-.158	-.091	-.162	.153	.509	.582	1.000							
	Sig. (2-tailed)	.119	.473	.402	.829	.553	.209	.521	.277	.528	.226	.248	.000	.000	.							
	N	42	42	42	39	40	42	42	42	42	41	42	42	42	42							

Table 1 (cont)
Lewis College of Business
MIS Graduate Survey Questionnaire
Kendall's tau b Correlations

		Q1	Q2	Q3	Q4	Q5	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
Q19 Balance of Conceptual-Practical	Correlation Coefficient	.019	-.060	-.076	-.273	.153	.075	.069	-.285	-.442	.372	.116	-.100	-.184	-.117	1.000						
	Sig. (2-tailed)	.881	.622	.596	.039	.257	.574	.630	.046	.002	.004	.373	.452	.169	.378	.						
	N	42	42	42	39	39	41	42	42	42	41	42	42	42	42	42						
Q20 Develop Critical Thinking	Correlation Coefficient	.246	-.254	-.190	-.272	-.153	.075	.000	-.395	-..372	.438	-.017	-.140	-.162	-.061	.474	1.000					
	Sig. (2-tailed)	.055	.044	.199	.045	.257	.574	1.000	.007	.011	.001	.899	.306	.243	.657	.000	.					
	N	41	41	41	38	39	41	41	41	41	40	41	41	41	41	41	42					
Q21 Develop Ethics	Correlation Coefficient	.113	-.103	.079	.086	.007	.264	.184	-.102	-.039	-.048	.075	.041	.026	.133	.133	.378	1.000				
	Sig. (2-tailed)	.360	.400	.577	.510	.960	.039	.197	.472	.783	.712	.564	.754	.845	.308	.308	.005	.				
	N	42	42	42	39	40	42	42	42	42	41	42	42	42	42	42	41	42				
Q22 Greater Understand	Correlation Coefficient	-.120	.117	.174	.161	-.018	.102	.254	.054	.068	-.153	.024	.231	.196	.006	.015	.013	.442	1.000			
	Sig. (2-tailed)	.325	.332	.218	.216	.892	.424	.072	.702	.628	.238	.852	.077	.138	.962	.907	.920	.001	.			
	N	42	42	42	39	40	42	42	42	42	41	42	42	42	42	42	41	42	42			
Q23 Active Citizen	Correlation Coefficient	.079	-.099	.298	.038	-.077	.141	.076	-.274	-.023	.148	.041	.088	.283	.116	.114	.240	.512	.450	1.000		
	Sig. (2-tailed)	.519	.411	.034	.769	.552	.266	.592	.052	.868	.253	.753	.579	.033	.380	.378	.072	.000	.000	.		
	N	42	42	42	39	40	42	42	42	42	41	42	42	42	42	42	41	42	42	42		
Q24 Quality of Life	Correlation Coefficient	.022	-.098	.286	-.018	.000	.316	.007	-.251	-.167	.096	.131	.106	.175	.080	.310	.309	.519	.410	.575	1.000	
	Sig. (2-tailed)	.855	.421	.044	.888	1.000	.013	.592	.078	.235	.463	.313	.505	.190	.545	.017	.021	.000	.001	.000	.	
	N	42	42	42	39	40	42	42	42	42	41	42	42	42	42	42	41	42	42	42	42	
Q25 Current Income	Correlation Coefficient	-.274	.032	.172	-.402	-.235	.062	-.474	-.089	.005	-.113	.138	.235	.146	.367	.015	-.071	-.105	-.094	.096	.074	1.000
	Sig. (2-tailed)	.028	.793	.232	.003	.078	.632	.001	.535	.975	.393	.294	.139	.278	.006	.911	.604	.423	.471	.463	.572	.
	N	42	41	41	38	39	41	41	41	41	40	41	41	41	41	41	40	41	41	41	41	42