

COVERAGE OF KEY ISSUES IN THE MIS COURSE

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ABSTRACT: *MIS decision-makers in business and academia are faced with a number of issues in an ever changing environment. A number of previous studies [1,2,3,4] have identified MIS issues of greatest importance to IS management. It has been suggested [2,4] that knowledge of the relative importance of MIS issues aids businesses in deciding where to focus investments, and is also relevant to academics as they attempt to shape curricula. This study presents an assessment of the degree to which the issues identified as of greatest importance by the cited studies are likely to be included in a typical undergraduate MIS class. Coverage of a topic in the typical MIS text is used as a proxy for actual class coverage. Such coverage within the textbooks is found to be spotty and the implications of this finding for the classroom are discussed.*

KEYWORDS: *MIS Issues, Curriculum, Textbooks*

INTRODUCTION

It is widely accepted that computer-based Management Information Systems will play an ever increasing role in all business functions. MIS faculty play an important role in preparing future business professionals to maximize the contribution of computer-based information systems to effective management. This research grows out of the premise that a significant aspect of this preparation requires that MIS faculty ensure that the curriculum reflect those MIS issues that research has identified as being of the greatest importance in the real world. The textbooks used in undergraduate MIS courses are a major determinant of the issues that are covered in the course. The textbook provides a framework for the course and students may continue to use the text from their MIS course as a central reference when they need answers to "computer" questions after they take the MIS course. The

centrality of textbooks to the MIS issues covered in an undergraduate MIS course leads to our basic research question:

To what extent do MIS textbooks cover the "key MIS issues" that have been identified by researchers?

METHODOLOGY

The methodology for this study consisted of a three step process: (1) selection of issues, (2) selection of texts, and (3) analysis of texts with regard to coverage of the issues.

Selection of Issues

A number of studies over the past eight years have identified "issues of importance in MIS" [1,2,3,4]. Table 1 lists the issues selected for inclusion in this study and indicates the previous studies that found these issues to be of particular importance.

Selection of Texts

Texts included in this study were identified based upon a computer search of the Dialog Books in Print index under the subject heading of Management Information Systems. This search identified books for both introductory computer courses and MIS courses. The research list was finalized by selecting all the MIS textbooks copyrighted after 1983 from the list generated by the Dialog search. A list of all texts included in the study is presented in Appendix I.

Analysis of Texts

Analysis of the texts was undertaken on an issue-by-issue basis. Appropriate coverage of an issue requires a formal treatment in the text. The issue should be formally defined, and information regarding the issue should be developed under appropriate chapter or section

headings. Such structure will result in citations in the Table of Contents, the Index, or both. Thus the textbook analysis began with a review of the Index and the Table of Contents for references to the issues under study. Because terminology will vary, a list of keywords (Appendix II) was developed to represent the issue. A count was made of the lines of text which were devoted to the issue.

FINDINGS

The results of the line-count analysis for the fourteen "key issues in MIS" are summarized in Tables 2 and 3.

These tables support the following conclusions. First, the mean coverage is mixed; ranging from less than a page for eight issues to 12.1 page equivalents for Decision Support Systems. Given the

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average text length on the order of 600 pages, and the large number of issues which must be discussed, an average of 12.1 pages devoted to discussion of the management issues related to Decision Support Systems can probably be

considered an acceptable and useful level of coverage in an MIS course. The average of less than one page devoted to discussion of the topics of Organizational Learning; IS's Role and Contribution; Alignment of IS in the Organization; Data as a Corporate Resource; Information Architecture; Measuring IS effectiveness; Integrating DP, OA, FA, & TC; and Application Portfolio, however, suggests that treatment of these topics amounts to little more than a mention-in-passing.

Second, the issue identified in the literature as the least important (Decision Support Systems) receives by far the most extensive coverage in the texts. End-user computing receives the second most extensive coverage of all and yet at number six it ranks just above the middle of the list of "key MIS issues".

Finally, the trend to "management" issues as opposed to "technical" issues as suggested in Brancheau & Wetherbe [4] is not yet reflected to a significant extent in the existing texts.

DISCUSSION

Implications for the Classroom

Table 2 and 3 indicate that, with the exception of Decision Support Systems, the "key issues in MIS", as identified in the research literature, did not receive the extent of textbook coverage that their postulated importance warrants. This agrees with McLeod [5] who has noted that the typical MIS course focuses more on "computers" than on "management".

The preponderance of material in the typical textbook presents coverage of technology and not coverage of management issues. The lack of textbook coverage of the "key issues in MIS" suggests that coverage of these issues in the classroom depends upon the ability and willingness of the individual faculty member to assemble materials to supplement the text, and therefore may be insufficient for a given undergraduate.

Suggestions for the Classroom

MIS is most often taught as a single
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Table 1: Major Issues Included in This Study

Issue	Found Important In			
	1982	1984	1986	1987
<u>Brancheau & Wetherbe (1987)</u>				
1. Strategic planning	Y	Y	Y	Y
2. Competitive advantage	NA	.	?	Y
3. Organizational learning	Y	Y	NA	Y
4. IS's role and contribution	NA	I	NA	Y
5. Alignment of IS in the organization	NA	Y	NA	Y
6. End-user computing	Y	Y	Y	Y
7. Data as a corporate resource	NA	Y	NA	Y
8. Information architecture	NA	.	NA	Y
9. Measuring IS effectiveness	Y	Y	I	Y
10. Integrating data-processing, office automation, factory automation, and tele-communications	NA	Y	Y	Y

Dickson, Leitheiser, Wetherbe, & Nechis (1984)

11. Software development (4)	Y	Y	Y	I
12. Human resources (8)	Y	Y	I	I
13. Application portfolio (10)	NA	Y	NA	I
14. Decision support systems (10)	Y	Y	I	.

- Key:
- Y - Same or similar issue found in top ten
 - I - Same or similar issue found to be important, but not necessarily in the top ten
 - NA - Not applicable. In the 1982 and 1986 studies, respondents were given a list of issues from which to choose with no method for adding to the list. These issues were not included on the list used in the survey.
 - .
 - Not found to be important in the survey.
 - ? - Correspondence to issue in survey possible, but not clear.

Table 2: Line-count Per Issue

n = 22 textbooks

Issue	Min	Ave	Max
1. Strategic planning	0	69.3	294
2. Competitive advantage	0	34.8	327
3. Organizational learning	0	10.0	64
4. IS's role and contribution	0	15.5	115
5. Alignment of IS in the organization	0	13.2	78
6. End-user computing	0	185.7	1400
7. Data as a corporate resource	0	5.1	39
8. Information architecture	0	2.7	40
9. Measuring IS effectiveness	0	22.9	155
10. Integrating DP, OA, FA, & TC	0	11.8	76
11. Software development	0	92.0	536
12. Human resources	0	109.7	420
13. Application portfolio	0	4.6	83
14. Decision support systems	2	424.8	1120

Table 3: Equivalent Pages Per Issue

n = 22 textbooks Equivalent page = line-count/35

Issue	Min	Ave	Max
1. Strategic planning	0	2.0	8.4
2. Competitive advantage	0	1.0	9.3
3. Organizational learning	0	0.3	1.8
4. IS's role and contribution	0	0.4	3.3
5. Alignment of IS in the organization	0	0.4	2.2
6. End-user computing	0	5.3	40.0
7. Data as a corporate resource	0	0.1	1.1
8. Information architecture	0	0.1	1.1
9. Measuring IS effectiveness	0	0.7	4.4
10. Integrating DP, OA, FA, & TC	0	0.3	2.2
11. Software development	0	3.1	15.3
12. Human resources	0	3.1	12.0
13. Application portfolio	0	0.1	2.4
14. Decision support systems	0	12.1	32.0

prepared to deal with this technology on a daily basis. They must be prepared to make informed decisions regarding technology and, more important, they must understand the role of technology in effective management. This level of preparation argues strongly for a two course CIS/MIS sequence.

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course, and in fact as the only information system course in a typical business curriculum [6]. This single course must provide at least a minimal understanding of computer technology and cover the relevant management issues. Given that coverage of computer fundamentals must come first, it becomes clear that the degree to which "management issues" can be discussed is limited. This conundrum is reflected in the textbooks. There simply is not enough time or space in a single course to establish a solid foundation in the technology of MIS and also do justice to the critically important management issues.

The importance of MIS to all areas of business is certain to continue growing

for the foreseeable future. Given the impracticality of covering basic fundamentals and "key issues in MIS" in a single all-inclusive textbook and a single all-inclusive course, it is time to consider requiring a two course CIS/MIS sequence in our business curriculum. A two-course sequence is common in many disciplines and the critical role of information systems certainly warrants a two-course-sequence.

A solid first course could cover the technology and provide a foundation for exploring the management issues in the second course. Computing power is moving rapidly from central MIS to the desktops of managers at all levels of the business organization. The effective business leader of the future must be

APPENDIX I

Texts Included in the Study

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APPENDIX II

Key Words Used in the Study

Strategic Planning:	Strategic planning; Planning; Long range planning; Executive information systems
Competitive Advantage:	Competitive advantage; Competition; Marketing systems; Operations
Organizational Learning:	Organizational learning; Management education; User education/training
IS's Role & Contribution:	Role of IS; Contribution of IS
Alignment of IS in the Organization:	Alignment of IS; Organizational structure; Reporting structure
End-user Computing:	End-user computing; Hands-on computing
Data as a Corporate Resource:	Data as a corporate resource; Data administration
Information Architecture:	Information architecture; Data architecture; Information modeling; Data modeling
Measuring Effectiveness:	Measuring effectiveness; Measuring efficiency; Productivity measurement; Cost/benefit analysis
Integrating DP, OA, FA, and TC:	Integration; Compatibility; DP;OA; FA; TC
Software Development:	Software Development; Application development; Productivity tools
Human Resources:	Human Resources; Education/training; Employment policies; Careers
Applications Portfolio:	Application portfolio; Application analysis; Cost/benefit analysis
Decision Support Systems:	Decision support systems; Decision making; Modeling Simulation

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