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A Snapshot of MIS Researcher Agendas

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A Snapshot of MIS Researcher Agendas

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Introduction

Management Information Systems as a discipline has gone through revolutionary changes in the last several years and we might expect this change to continue. Several review articles of the published MIS literature address the nature of MIS research (e.g., Carr, Cheney, and Mann, 1986; Cheon, et al., 1992; Culnan and Swanson, 1986; Hardgrave and Kletke, 1992; Holsapple, et al., 1993; Vogel and Wetherbe, 1984). These articles concur that MIS has matured and that the topics addressed and methodologies used are varied. These articles form an excellent basis for gaining an understanding of the MIS discipline, however, such factors as long lead times between research and publication, the "file drawer problem" (Rosenthal, 1979) and the large variety of outlet options available to researchers (Walstrom, et al., 1995) constrain the findings of these articles. Published MIS literature does not reveal areas being researched right now where findings have yet to be analyzed, let alone published. It also does not reveal the plethora of studies conducted where findings were not significant and publication of such findings has been difficult. Studies of published MIS literature tend to be exclusive, using only the top tier journals as surrogates for the entire discipline. The purpose of this paper is to take a "snapshot" of MIS research by querying MIS researchers concerning research related issues which cannot be easily answered by reviewing the published MIS literature.

Methodology

Questionnaires were sent to all 2070 faculty members in the United States and Canada that were listed in the 1995 Directory of Management Information Systems Faculty (DeGross, et al., 1995). The questionnaire asked respondents to answer two open-ended questions related to research: (1) "Indicate the areas in which you are currently (and within the last year) doing research"; and (2) "In your opinion, which articles, published in the last three years, will have the most impact on the field of MIS in the 1990's?"

Results and Discussion

Three hundred and fifty-two usable responses were returned (17 percent response rate). Demographical data indicated that respondents were almost evenly distributed between full (31 percent), associate (36 percent) and assistant (32 percent) professors. In addition, the majority of the respondents hold Ph.D.'s (97 percent) in MIS (65 percent).

Question 1: Indicate the areas in which you are currently (and within the last year) doing research?

Respondents were allowed to identify up to six areas in which they were doing research. The 352 respondents identified 831 areas in which they were doing research. These 831 areas were reduced by first combining and totalling all areas which were identical resulting in 225 unique areas. To identify similar areas of research, each of the 225 areas was listed on a separate piece of paper. The authors of this study, who will be referred to as the raters, then separately grouped the areas according to themes they independently identified. They then named each theme. This served as a way of qualitatively factor analyzing the research areas. This procedure is consistent with previous research attempting to conduct research similar to this study (Lyles, 1990; Elam, et al., 1986).

Table 1 shows that Systems Development and Artificial Intelligence/ Expert Systems were the two most heavily researched areas (9 percent each), followed by Telecommunications and Organizational Behavior (6 percent each), Group Decision Support Systems (5.5 percent), and IS Education (5 percent). All other research areas were listed by 4 percent or less of the respondents.

Question 2: In your opinion, which articles, published in the last three years, will have the most impact on the field of MIS in the 1990's?

Sixty separate items (54 articles and four books) were identified by the respondents. The 60 items were grouped by: (1) journal they were published in; (2) author; and (3) topic area. To determine the topic areas of the articles, the procedure performed on the research areas as described earlier was used. Each article was listed on a separate piece of paper. The raters then separately grouped the articles according to themes and named each theme.

Table 2 shows that DeLone and McLean ("Information Systems Success: The Quest for the Dependent Variable." Information Systems Research, March 1992) was listed by six respondents, DeSanctis and Poole ("Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory." Organization Science, May 1994) by five respondents, Brynjolfsson ("The Productivity Paradox of Information Technology," Communications of the ACM, December 1993) by three respondents, Orlikowski ("The Duality of Technology: Rethinking the Concept of Technology in Organizations," Organization Science, August 1992) by two respondents, Hammer and Champy (Reengineering the Corporation: a Manifesto for Business Revolution. Harper Business: New York, 1993) by two respondents, and 42 other items were each listed by one respondent. These four articles and one book may provide some insight into what MIS researchers will be the important topics of the future.

Table 3 shows that articles published in MISQ were listed eleven times, articles in Information Systems Research nine times, articles in Organization Science nine times, articles in Management Science seven times, articles in Communications of the ACM four times, and articles in other journals were each listed three or less times. These

findings support previous literature which has identified MISQ, ISR, Management Science, and CACM as top publication outlets for MIS research. One surprise is the identification of nine references to articles in Organization Science, indicating that this journal may be on the rise as a top publication outlet for MIS research.

Table 4 shows that articles by McLean were listed by seven respondents, articles by DeLone by six respondents, articles by DeSanctis by five respondents, articles by Orlikowski by five respondents, articles by Brynjolfsson by four respondents, articles and books by Hammer by three respondents, and 55 authors were listed by no more than two respondents.

Table 5 shows that articles related to Structuration Theory were listed by nine respondents, articles related to the Value of Information Technology were listed eight times, articles related to Information System Success (the DeLone and McLean (1992) article) and Organizational Transformation (mainly Hammer's re-engineering) were each listed six times. Six other topics were each listed three or four times, and nine other topic areas were each listed one time.

Are MIS Researchers Addressing the Critical MIS Issues?

In 1989-90, Niederman, et al. (1991) listed the most critical issues facing IS management as identified by senior IS executives. The top ten issues were:

1. Developing an Information Architecture
2. Making Effective Use of the Data Resource
3. Improving IS Strategic Planning
4. Specifying, Recruiting, and Developing IS Human Resources
5. Facilitating Organizational Learning and Use of IT Technologies
6. Building a Responsive IT Infrastructure
7. Aligning the IS Organization With That of the Enterprise
8. Using Information Systems for Competitive Advantage
9. Improving the Quality of Software Development
10. Planning and Implementing a Telecommunications System.

Using the findings of Niederman, et al. (1991) and the findings of this study, we can gain insight into whether MIS research is tackling the issues determined to be critical to IS management. Allowing five years to pass between the publishing of Niederman, et al's (1991) results should be sufficient time to allow MIS researchers to regroup and attack these issues. As shown in Table 6, findings from this study indicate that nine of the top ten issues are receiving attention from MIS researchers, the lone exception being #1 Developing an Information Architecture.

As shown in Table 7, further investigation of the articles listed as having the most impact on the field of MIS in the 1990's finds no articles related to #1 Developing an Information Architecture; #2 Making Effective Use of the Data Resource; #4 Specifying, Recruiting, and Developing IS Human Resources; or #10 Planning and Implementing a

Telecommunications System. The remaining issues appear to have one or more "high impact" articles related to each of them.

Conclusion

MIS researchers are studying a large variety of topics, 352 MIS researchers identified 225 unique areas they were researching. The greatest interest seemed to be in systems development, artificial intelligence and expert systems, telecommunications, organizational behavior issues, group decision support systems, and educational issues. Four articles and one book were identified when listing "articles published in the last three years which will have the most impact on the field of MIS." Findings from this question suggest that organizational design (structuration theory, new organizational theory) and organizational behavior (value of IT, organizational transformation, user involvement) will be important to MIS researchers in the future. It would appear that MIS researchers are addressing the issues considered by IS senior executives to be critical. However, for the most critical issues of: #1 Developing an Information Architecture; #2 Making Effective Use of the Data Resource; or #4 Specifying, Recruiting, and Developing IS Human Resources, "high impact" or seminal articles have either not yet been published or have not yet been identified.

References and Tables 3-7 available upon request from Kent A. Walstrom.

Table 1. "Indicate the areas in which you are currently (and in within the last year)doing research."		
Research Area	Frequency	Percentage
Systems Development	76	9
Artificial Intelligence and Expert Systems	74	9
Telecommunications	52	6
Organizational Behavior	51	6
Group Decision Support Systems	47	5.5
Education	44	5
Decision Making	35	4

Database	34	4
MIS Management Issues	34	4
Decision Support Systems	32	4
End-User Computing	30	3.5
Legal and Ethical Issues	29	3.5
Organizational Design	25	3
Strategic Information Issues	24	3
Human Factors	23	3
The IS Profession	21	2.5
Executive Information Systems	15	2
"Industry Specific" Systems	15	2
Multimedia	15	2
Accounting Information Systems	14	1.5
Computing Platforms	13	1.5
Global Information Issues	13	1.5
Operations Research/Management Science	11	1
MIS Research	10	1
Other	04	12.5
Total	831*	100

* Respondents were encouraged to list more than one area

TABLE 2. "In your opinion, which articles published in the last three years, will have the most impact on the field of MIS in the 1990's."

Article or Book	Frequency	Percentage
DeLone and McLean (1992)	6	10
DeSanctis and Poole (1994)	5	8
Brynjolfsson (1993a)	3	5
Orlikowski (1992)	2	3
Hammer and Champy (1993)	2	3
Other articles received one vote each	42	70
Total	60 *	99 **
	* book authors were included	** due to rounding