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**BUSINESS SCHOOL DEANS ASSESS THE CURRENT
STATE OF THE IS ACADEMIC FIELD**

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PROFESSIONAL

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ABSTRACT

Fourteen deans of business schools were interviewed to obtain their assessment of the current state of the IS field in terms of the strengths, weaknesses, opportunities, and threats facing the discipline. Their observations are organized into nine categories: (1) interaction with the business community, (2) demand for IS courses, (3) identity of the IS field, (4) cross disciplinary nature of the field, (5) research rigor versus relevance, (6) competitors to IS, (7) cost of information technology, (8) shortage of IS faculty, and (9) shortage of IS leaders. These findings are compared with those from an earlier study with leaders in the IS academic field. The differences in perspectives have implications and lead to doable recommendations for the field: (1) work on branding IS, (2) strive for more consistency in IS courses across universities, (3) help provide hardware and software resources, and (4) create an electronic journal that publishes technical research.

Keywords: information systems academic field, deans of business schools, demand for IS courses, identity of IS, research rigor versus relevance, cost of information technology, IS faculty, and IS leadership.

I. INTRODUCTION

These are heady times for IS academics. In society, technology is “cool.” People want to talk to us at social events and tap into our expertise. Our courses and services are in high demand by students and industry alike. The press writes about us. The academic job market is great, with many more position announcements than can possibly be filled by the available talent.

This excitement is tempered, however, by not too distant memories. If you have been an IS faculty member for awhile, you remember the problems that the IS academic field has experienced: a soft job market, other academic disciplines not understanding who or what we are, turf battles, questions about the quality of our research and journals, and promotion and tenure difficulties for some of our best young people. Fears remain that some of these problems are currently masked by the high demand for our services. This concern is heightened when administrators and colleagues in other business disciplines speculate about whether the current demand for IS is simply a cyclical high, whether IT will be absorbed into other business school disciplines, and whether IT will become a commodity that no longer requires specialized skills to use.

Last year, one of the authors of this article published the results of interviews of 17 leaders in the IS academic field to learn what they thought are the field’s strengths, weaknesses, opportunities, and threats (Watson, et al., 1999). A “leader” was operationalized as someone who was either a leading publisher in IS journals, an ICIS or AMCIS conference chair, or a high-level officer in a leading academic professional organization. The interviews produced interesting and insightful observations about the field. Nine issues dominated the interviews

and an “other” category was added to capture issues that mentioned by only one or two people. All of the issues contained various combinations of strengths, weaknesses, opportunities, or threats; for example, for some strengths (the high demand for our courses) there are accompanying weaknesses (not enough resources to handle the demand). The nine major issues identified by the leaders were:

1. the core identity of IS,
2. the legitimacy of the IS field,
3. competitors to what we teach,
4. research rigor versus relevance,
5. the pervasiveness of information technology,
6. the impacts of changing technology,
7. the quality and quantity of journals,
8. the demand for IS services, and
9. the role of ICIS and AIS.

Leaders in the IS field are an excellent source of insight about the discipline, but other groups or stakeholders, such as administrators, the business community, and colleagues in other disciplines, also have important and useful perspectives. Furthermore, all the leaders interviewed teach at North American universities. It is likely that other parts of the world have different views of the IS academic discipline that are influenced by local conditions, traditions, and structures.

This article begins by describing the study that was conducted with another IS constituency -- business school deans. Fourteen deans were asked to assess the current state of the IS academic field (Section II). The interviews with the deans surfaced nine issues that either are a strength, weakness, opportunity, or threat associated with the field. The authors have added comments to the issues raised by the deans to put the issues in perspective. These comments are placed within [] and identified by an “Au.” (Section III). The issues identified by

the deans are then compared with those identified by IS leaders to find the areas of agreement and the areas where there are differences in perceptions. (Section IV). This comparison is then used as a basis for suggestions for advancing the IS academic field.

II. THE STUDY

To gain another perspectives on the current state of the IS academic field, we surveyed the literature (see the Bibliography) and conducted telephone interviews with 14 deans (or acting deans, or in Europe, department heads) of business schools. In selecting the deans, we strove for diversity. As a result, we included deans from North American and Europe, public and private universities, and large and small schools. Five of the deans have IS backgrounds but the others were trained in other academic disciplines. Twelve of the deans' schools have large undergraduate programs while the other two deans' schools emphasize graduate education. Three of the study participants are from Europe, a small number in light of the diversity that exists in Europe. Table 1 shows the deans who participated in the study, their schools, and the nine issues that they raised. The deans were sent a draft of the manuscript and given an opportunity to make further comments. Several deans responded with comments and their observations are integrated into this article.

III. THE FINDINGS

INTERACTION WITH THE BUSINESS COMMUNITY

A high level of interaction with the business community is a job requirement for most business school deans. Their job is much more externally focused than it was in the past. They are “on the point” for promoting the business school, obtaining donations and contracts, developing executive programs, bringing speakers to campus, and the like. In their interactions with the business

Table 1. Study Participants and the Issues

ISSUES	Interaction with the business community	Demand for IS courses	Identity of the IS field	Cross disciplinary nature of the field	Research rigor versus relevance	Shortage of IS faculty	Competitors to IS	Cost of information technology	Shortage of IS leaders
DEANS									
GEORGE BENSON University of Georgia	x	x	x	x	x				
DAVE BILLINGS U. of Alabama, Huntsville	x	x	x	x	x	x		x	x
JIM BRANDER University of British Columbia	x	x	x	x		x			
TOM CLARK Louisiana State University	x	x	x	x		x			x
ULRICH FRANK University of Koblenz, Germany	x	x	x	x	x	x			
SID HARRIS Georgia State University	x	x	x	x	x				
CORNELIUS DE KLUYER Claremont Graduate University	x	x	x	x	x			x	
ALTAMIRO MACHADO University of Minho, Portugal	x	x	x	x			x		
AL NIEMI Southern Methodist University	x	x			x	x	x		
RODNEY ROENFELDT University of South Carolina	x	x	x	x	x		x	x	
HENK SOL Delft University of Technology, The Netherlands	x	x	x	x	x	x	x		
DICK SHICK Canisius College	x	x	x	x	x				
MELVIN STITH Florida State University	x	x	x			x			
JACK SUYDERHOUD University of Hawaii	x	x	x	x	x			x	
NUMBER OF RESPONSES	14	14	13	12	10	7	4	4	2
TOTAL (%)	100	100	93	86	71	50	29	29	14

community, deans are constantly asked questions such as: “What are you teaching students about electronic commerce?” “What software are students learning to use?” “How many IS students do you graduate each year?” Because deans have so much contact with the business community, they are well aware of the importance and relevance of IS and the potential for IS to take a leading role in interacting with businesses. For this reason, one dean said that IS has become the most important discipline in his school.

Several deans mentioned that they believe that IS faculty members are playing an important role in economic growth and development. One dean talked about the major contributions that IS graduates make to the computing and telecommunications industry. He believes that North America’s leadership position in this industry is directly related to the size and nature (e.g., technical and business skills) of the IS programs in North America. Many parts of the country recognize information technology as being critical to furthering economic prosperity. They need IT-trained graduates to fill existing jobs and to attract new companies, and IS departments are helping meet these needs.

Deans also believe that interacting with the business community helps both students and the business school. Faculty members who work with companies are more up-to-date with what is going on in industry and can bring this understanding back to the classroom and to the design of the curriculum. The relationships that are developed can also lead to internships and jobs for students, research opportunities for faculty, and guest speakers on campus. A single relationship by a faculty member with a company can sometimes be leveraged to benefit the business school as a whole. Often all that is needed is “a foot in the door.” Several deans mentioned that IS can potentially be like accounting, which over the years works closely with the business community, in general, and the large accounting firms, in particular.

Deans believe that IS departments can use their relationships with the business community to bring in computer resources. Obtaining computing resources is a concern of many deans and is discussed in a later section. Deans believe that vendors of hardware and software products and the large consulting firms (e.g., Andersen Consulting) should assist business schools in meeting their technology needs. This kind of help is not uncommon in Europe, where the vendor or consulting firm supplies the technology for a laboratory and the school names the lab after the donor.

Several deans pointed out that it is relatively easy for IS faculty members to obtain external funding, either for work on specific company projects or for research. IS faculty skills are in high demand in industry. Because companies also want access to students coming out IS programs, sponsoring IS research is a good way to develop a special relationship with an IS department. IS research centers often include access to students as one of their deliverables. The deans point out that faculty life is enhanced by external funds that supplement what is available through the university. These funds also add to the credibility and status of IS faculty.

Electronic commerce and Internet technologies are creating many jobs that require new IS skill sets. Their emergence is also creating exciting new opportunities for IS faculty and the business school. The most obvious opportunities are related to the very large demand for new training programs, courses, and degree programs. Some business school deans are looking beyond the current demand, seeing all of the .com companies and envisioning even greater opportunities. These deans envision students coming out of an electronic commerce program with the ideas and skills needed to start a new company, entering an incubator program where they are given help in developing a business plan and obtaining venture capital, and working with the students as their companies are taken to the marketplace. The long-term returns for the entire business school from these kinds of relationships are viewed as potentially

significant. One of the European deans that we interviewed serves on the advisory boards of several small start-up companies created by former masters and doctoral students.

[Au: There are downsides to working with the business community, however. Most IS faculty members are already busy teaching many students, offering multiple degree programs, conducting training programs, keeping up with advances in technology, integrating technology into other business school courses, planning and running the college's computing infrastructure, and conducting research. With most IS departments understaffed relative to these demands, IS faculty are stretched very thin, and taking on more activities with the business community exacerbates the problem.]

An option available to many IS faculty members is to undertake systems development (i.e., contract) work for companies. It generates income, provides real-world experience, and potentially opens the door for other opportunities. Several of the deans believe that this kind of work is worth doing occasionally for experience, but that it should be avoided unless it is creative, ties into research, or adds to the faculty member's knowledge base. Unfortunately, contract work rarely does any of these.

Time spent with the business community can also contribute to promotion and tenure problems for junior IS faculty members, because it takes time away from traditional academic research. [Au: The paths to success in academia are well established and working with the business community is not one of them. Promotion and tenure committees still stick to "rigorous" research as the primary criterion for promotion.]

A difference between European and North American business schools involves the relationship with the business community. In North America, a strong relationship is desirable; in Europe, it is the norm for the three European schools

included in this study. There are several reasons for this difference. To gain respectability, North American business schools adopted much of the social sciences research paradigm, whereas European business schools are more engineering-like in their research. Many European business schools receive much of their funding from contract research. One European dean said that his school gets 50-60 percent of its money from sources other than the government and/or public funding. Another reason for greater involvement in Europe is the low salaries at most universities relative to North America. Salary motivates European faculty members to do consulting, and creates an environment where consulting is more likely to be accepted as a normal part of faculty life. One European dean commented that European universities are not as “publish or perish” as in North America.

DEMAND FOR IS COURSES

The high demand for IS courses was mentioned by every dean. In many business schools, IS is now the largest undergraduate major. In MBA programs, openings in IS elective courses are filled quickly. Specialized IS masters degrees created at many schools are in high demand by well qualified applicants. Non-degree IS training programs are also in high demand.

[Au: The reason for the high demand is no mystery – IT is where the high paying, “cool” jobs are. This fact is constantly brought home by the media, and for traditional undergraduates, by their parents. It brings back memories of Dustin Hoffman being counseled in “The Graduate” to get into “plastics” and parents in the Sputnik era telling their sons (and a few daughters) to become engineers. As long as the job market for IS graduates is strong, student demand for IS courses will be high.]

While the high demand creates problems, such as a shortage of IS faculty, several deans pointed out that it gives the field status and credibility. Business

school faculty may not fully understand IS, but if the market demands what IS offers, the deans believe business schools should respond to the demand. Non-IS faculty are also learning more about IS as their own disciplines are increasingly impacted by it.

While the demand for IS courses was seen as a strength, two concerns were mentioned.

1. The need to meet the demand for IS courses while at the same time maintaining instructional quality. Many schools rely on instructors and adjuncts, but the quality of their teaching varies considerably.
2. The potential for a downturn in the job market leaving schools saddled with more IS faculty than needed. This concern was isolated, however. None of the deans see IS going the way of operations research and management science.

IDENTITY OF THE IS FIELD

The deans recognize IS as a separate academic discipline. [Au: Not too long ago, this was not the case. Particularly troublesome was confusion over its relationship to management science. While some IS programs are still housed in management science or decision sciences departments, they are now recognized as offering distinct curricula and research.]

Even though IS is recognized as a separate field, most deans do not think it is well defined. They view it as fragmented. Fragmentation provides an opportunity, but is generally viewed as a weakness.

The opportunity is the ability to create a whole new discipline. One dean, who is an economist by training, said that when he entered economics, the field and its subspecialties were well defined and a person had to select an existing area and

specialize in it. By contrast, IS is an emerging field with new areas (e.g., data warehousing, e-commerce) appearing regularly.

The fact that IS contains both technical and behavioral dimensions causes confusion. [Au: Much of the instruction (especially at the undergraduate level) is technical while the research in the field's leading journals (e.g., *MIS Quarterly*) is behavioral. Even IS faculty members have differing opinions as to the field's core identity. The foci of some of field's leading doctoral institutions is also quite different. For example, the University of Arizona's is technical while the University of Minnesota's is behavioral.] One dean pointed out that unlike other disciplines, IS is so broad that almost anyone can claim to be a member of the community (at least in terms of the research). While this diversity is positive in some ways, it does not help the reputation of the field.

One dean (with a finance background) said that IS lacks theoretical underpinnings. This condition contributes to an identity problem and a perception that the field is not rigorous. A European dean commented that IS people are mostly occupied with "down-to-earth" problems rather than having time to reflect on the theoretical and methodological issues of the discipline.

Several deans commented unfavorably on how much IS courses vary from university to university. This comment was directed primarily to the required undergraduate and masters courses in IS, rather than to the advanced courses. By contrast, the contents on the required economics, accounting, and statistics courses are well known and vary relatively little across institutions.

They also talked about how frequently the IS curriculum changes. While IS academicians would argue that the changes are needed to stay up with technological advances and the demands of the marketplace, some deans see the field as being faddish. One dean said we are too quick to offer the latest

course de jour. It also leaves the impression that the field focuses more on training than education.

One dean said that the lack of a clear identity contributes to the varying treatment of IS at different universities. Some universities with theory-based research traditions, with most if not all of their business education focused on the graduate level (e.g., University of Chicago), are non-players in the IS academic field. [Au: By contrast, large state universities with large undergraduate enrollments developed the majority of the top ranked IS programs. These universities were eager to make their mark and put resources into programs with high student demand and considerable upside potential.]

CROSS DISCIPLINARY NATURE OF THE FIELD

Many deans commented favorably on the cross-disciplinary nature of the field. They recognize IS as being important to all of the other disciplines in the business school. It is similar to the role that economics has long played.

Some schools make it relatively easy for students to undertake a joint major or minor and IS is a popular choice for many students. It is not unusual for a student to finish one business school major and then stay on to complete the requirements for the IS major.

Some schools are trying to break down their academic “silos” by developing integrated curricula and doing team teaching. IS faculty members have an important role in these efforts. However, several deans pointed out how difficult they found it to integrate the curricula successfully.

Several deans commented on the need for accounting to be closely tied to IS. As accounting becomes more computer-based, its graduates need more IS education. At some schools (e.g., Arizona State University, Indiana University),

IS programs were moved or combined with accounting. [Au: The efforts to place IS in accounting are attempts to correct the mistake that accounting departments made 25 years ago when they let IS slip away. At some schools, accounting enrollments are decreasing while IS enrollments are rising.]

Two deans discussed the potential synergy between marketing and IS. An early example of IS becoming important to marketing was database marketing. Now there are new opportunities with customer relationship management and e-commerce.

One dean (with an IS background) believes that IS is short sighted by not doing enough to reach out to other disciplines to help them infuse IS in their courses and programs. The consequence will be that other disciplines will “pick off” topics for themselves (e.g., taking technology to the marketplace) in which IS should be involved. He feels that IS programs should follow a co-optive strategy by working together on topics such as e-commerce.

The Internet is now important to all business school disciplines. Other disciplines look to IS faculty members as the Internet gurus. The Internet is a specific example of a general feeling that IS should play a leadership role in helping schools of business move forward in using information technology.

RESEARCH RIGOR VERSUS RELEVANCE

The issue of the rigor versus the relevance of IS research was discussed in most of the interviews and generated the widest range of comments. Some deans felt that the rigor of IS research is now comparable to other disciplines, while others feel that it is not as good. One dean had no strong opinions but said that it is difficult for him to assess the quality of the more technical research. Adding to this difficulty, according to another dean, is the fact that technical research is often published in conference proceedings or journals (e.g., IEEE and ACM) that

Promotion and Tenure committees are not familiar with. Conference proceedings are virtually never considered equal to journal articles by business school Promotion and Tenure committees and great effort is required to document the quality of technical journals.

One dean said that the leading IS journals do not have the same status as those in other disciplines. A major contributor to this perception is the relative newness of our leading journals. *MIS Quarterly* started publishing in 1977, *Journal of MIS* in 1984, and *Information Systems Research* in 1990. Many deans, senior faculty, and Promotion and Tenure committee members were out of graduate school before these journals began. Consequently, they did not learn about them while in school and may not have read them after graduation. There is a feeling that it is easier to get published in our leading journals than the best journals in other disciplines. [Au: This perception is a myth; see Athey and Plotnicki, 2000. Together, *MISQ*, *ISR*, and *JMIS* publish about 100 articles per year for 3,000 IS faculty members.]

Several deans at schools where there is considerable interaction with the business community feel very strongly that IS research needs to be relevant and that trading off relevancy for rigor is the wrong choice for the field. They also feel, however, that this tradeoff is also made in other business school disciplines.

One of the deans talked about his desire to hire faculty members who have the interests and skills needed to work effectively with the business community. The problem at his school is that junior faculty with these characteristics are unlikely to make it through the promotion and tenure process. His senior people who serve on the Promotion and Tenure committee have a bias toward traditional empirical, theory-based research and expect junior faculty to have this same orientation. His solution is to bring in people with tenure, and then to encourage them to work with the business community.

Another dean in a high tech part of the United States wants his IS faculty to do contract research, offer specialized courses and degree programs, and conduct applied research. He understands the amount of time required to keep current with rapidly changing technology. To possibly help IS people with the promotion and tenure process, he formed a committee to review the college's promotion and tenure requirements, with an eye toward having slightly different requirements for IS faculty. To his disappointment, the committee recommended no changes in the requirements for IS faculty.

Positivist research is the dominant paradigm in North America; in Europe, it is recognized but not accepted as the standard for quality. European research takes many forms – case study, interpretive, technical, and company and government sponsored. Sponsored research is common in Europe and it is expected that the sponsor and the researcher will work together to solve the sponsor's problem. This relationship results in research that is highly relevant, but not always rigorous by academic standards. [Au: In North America, researchers are more likely to work on topics that they are interested in, often independent of their relevance.]

SHORTAGE OF IS FACULTY

The increased demand for IS education creates a strong job market for IS faculty. On the other hand, because the supply of IS faculty is well short of demand, it creates significant problems for deans who must find and hire IS faculty. Hiring faculty to teach in new, "hot" areas like e-commerce is especially challenging. This shortage is not limited to North America. A European dean commented on the difficulty of finding good people, including senior IS faculty.

One dean was very pleased that he was able to hire a team of people in electronic commerce for next year. He felt badly, however, that in hiring his new people, he decimated the program at another school.

IS faculty salaries have not yet caught those of finance and accounting, but are rising rapidly. As a result many schools face salary inversion and compression problems because raise money has not kept up with the market. One dean says that he lives in a “U-Haul It” environment when it comes to IS faculty. They come in for two or three years and then move on to another school for considerably more money. His IS department never fully coalesces and matures. They are constantly absorbing new people, with the attendant startup costs and discontinuities.

Another dean talked at length about the difficulties he has experienced. Two years ago 75 percent of his IS faculty left for higher pay. He recruited replacements and tried to expand the number only to experience more departures. He describes IS recruiting as a “revolving” door. He conducts more on campus interviews of candidates for IS positions than any other field. What makes it especially frustrating is that the school has more research opportunities with the business community than he has IS faculty to deploy. He made the wry observation that perhaps we should not worry about research rigor for promotion and tenure because IS faculty do not stay long enough at their first school to go up.

The same dean also encountered difficulties with new IS PhD’s accepting a position at his school but not following through. He described a case where a contract was sent but not returned. The department chair tried to contact the new IS hire by phone and e-mail but to no avail. Finally, the chair contacted the major professor who said that he would talk to the PhD candidate. Later the chair found out that the new hire had changed his mind and took a position at another school. He said that other deans have had similar experiences. He feels that doctoral mentors are responsible to the academy to socialize new IS PhDs about appropriate professional behavior during the recruiting process.

Because of the shortage of IS faculty, many schools turned to using adjuncts and practitioners. They bring specialized technical skills or business experience to the classroom. [Au: The downsides are locating them; their lack of familiarity with the common frameworks used in IS; and lack of experience in packaging, teaching, and administering classes.)]

One dean said that he hoped that the field would not turn to summer programs to retrain faculty members from other disciplines, as was done in the 1980's (a basic program was offered at the University of Minnesota and an advanced program at Indiana University). While these programs helped some universities meet short-term staffing needs, they did not produce faculty members with a full complement of IS skills. [Au: The programs also sent the unwanted message that one could become a full-fledged IS faculty member by taking courses for one or two summers.]

COMPETITORS TO IS IN BUSINESS SCHOOLS

A few deans mentioned the emergence of new degree programs as potential competitors and threats to IS in the business school. Often these programs are sponsored by schools of engineering who are moving closer to business schools in some of the degree programs that they offer. Independent schools of information technology are particularly threatening. They are often introduced with great fanfare, are high profile, and are given considerable resources. They potentially take the luster, focus, and resources away from IS departments in the business school.

While other academic disciplines are potential collaborators with IS, they are also potential competitors. One dean mentioned accounting as an example. [Au: The recent movement of some IS programs into schools of accounting undoubtedly strengthens those schools' course offerings in accounting information systems.

In doing so, however, it may impede the development of IS programs that cover other aspects of the discipline at those schools. For example, accounting faculty tend to view IS as transaction processing and performance measurement rather than the full range of topics that IS faculty see as part of the field's domain. This limited view can impact the set of IS courses that are offered and the kind of research that is perceived as being appropriate.]

Another set of potential competitors, mentioned by one European dean, are the large software vendors (e.g., Microsoft) and consulting firms (e.g., Andersen Consulting). They have the resources, expertise, and name recognition to offer highly competitive programs to those offered by IS departments.

COST OF INFORMATION TECHNOLOGY

Several deans discussed the problem of obtaining the funds needed to keep the college's computer hardware and software up to date. It is difficult to keep up with industry in this area. The deans recognize that there should be about a three-year replacement cycle on technology. In many cases, however, the cost of replacing hardware and software is not included in the business schools' budget. One dean described his strategy for maintaining technology as "going to the provost and begging."

Schools use a variety of approaches to fund technology. A few pass the cost on to the students by requiring them to buy their own computer hardware and software. Each incoming class is given a standard, required configuration for their PCs. To make purchasing easier for students and to help ensure that students buy what they need, schools make arrangements (e.g., the bookstore or the vendor) for students to purchase their PCs. This approach solves the problem of obsolescence – aging technology leaves with each graduating class.

However, most schools do not require students to buy their own PCs, and many of those that do, require it only of their MBA students. Such a requirement is also more common at elite schools where the cost of attending is high and students know it when they apply. Most other schools hesitate to put the financial burden of buying PCs on their students. [Au: A subtle issue with requiring students to purchase their own PCs is the expectations that it creates for faculty. Students expect to use their computers in every class. If it is not needed, why did they have to buy it? Faculty members who do not integrate computing into their classes are likely to generate negative reactions.]

Another funding approach is to assess computer lab fees. This fee may be applied to all students in the university or college of business, or fees associated with particular courses (e.g., Intro to Computing). While this approach works well at many schools, others encounter problems getting computing fees approved. Often the students are already paying many fees beyond the basic tuition (e.g., athletic fees), and university level administrators are hesitant to add to the students' financial burden, even though the need for the fee is clear.

Another source of funding is through endowments. But the size of the endowment must be large to fully cover the costs. Typically, only about 5 percent of an endowment can be spent each year. That means that the endowment needs to be a little over six times the three-year technology costs.

Some business schools turn to the business community to support specific computing needs (Watson and Huber, 2000). For example, the University of Wisconsin-Whitewater's Web application development lab is supported by local companies. There are deliverables required by the lab's sponsors.

Vendors are another source of help for obtaining computing resources. Over the years, a few high profile grant programs, like IBM's \$27 million program in the mid 1980s, benefited a few IS programs. Most hardware grants, however, are

arranged school by school, with each school drawing on its contacts and relationships with the vendors to obtain grants. More recently, software vendors like Oracle and SAP made their software available to all universities at an affordable price. The grants make it easier for schools to obtain the more specialized software that is needed in advanced IS courses. Several deans pointed out, however, that the real costs are in sending faculty to training programs so that they can learn and teach the software and hiring support personnel who can maintain the software.

On occasion, IS faculty members want expensive, specialized hardware, software, or facilities to support their instruction, research, or work with the business community. One dean talked about funding such an initiative but not seeing a return on the investment. This fact was noted throughout his college, and did not serve IS well.

SHORTAGE OF IS LEADERS

One dean, who has an IS background, thinks that we are thin in terms of IS leadership in the field. He thinks highly of the leaders that we have, but believes that there are not enough of them, certainly in comparison to other disciplines. He puts forward the following argument for why this is the case. First, IS is a relatively new discipline with much of its most rapid growth occurring recently. Consequently, there has been a lag in the emergence in leaders. Another reason is that our field is very broad in the areas that it covers (e.g., highly technical, e-commerce, AI, interfaces, management of IS, strategy). The leadership that we do have is spread over these many areas and the multitude of professional organizations that serve them. He also feels that the new generations of IS faculty members are not as entrepreneurial as they might be. Probably heeding the advice of their advisors, they focus on their research rather than program building, curricular activities, and working with the business

community. This dean feels that the current leaders in the IS field should focus more attention on developing the next generations of leaders.

IV. COMPARING THE DEANS' AND IS LEADERS' PERSPECTIVES

The interviews with leaders in the IS field (Watson, et al., 1999) and business school deans surfaced many issues where there was general agreement. Complete agreement could not exist because there is no consensus within each group, much less between the groups. The issues where there was general agreement include:

- *The opportunity for IS faculty members to take a leadership role in interacting with the business community.* Because of the need for IS skills in the business community, there are many opportunities for IS faculty members, perhaps more so than any other academic discipline. This interaction can lead to jobs for students; opportunities for research, often funded; consulting; guest speakers for classes; and participation on advisory boards.
- *The high demand for IS graduates.* This demand gives the field strength and status. It also opens doors to working with industry, because companies want access to IS students. The downside is the need to educate a large number of students with limited faculty resources.
- *The lack of a well-defined and understood identity.* For the IS leaders, the question is what the identity should be (i.e., technical versus behavioral versus systems development). Some deans are uncertain as to what the field is.
- *The IS field is perceived as legitimate.* Even with the uncertainties about the field's identity, both deans and leaders agree that IS is a unique academic discipline. The recognition for IS in industry and the media, and the demand in industry for the services of IS faculty members and for IS graduates, all combine to make the field legitimate.

- *The unresolved tension over research rigor and relevance.* Some IS leaders believe that it is important for IS to continue to improve the rigor of its research. An important motivation behind this belief is a felt need to gain increased acceptance by the other academic disciplines in the business school. Other leaders believe that increased emphasis on theory-based research and sophisticated research methods detracts significantly from the relevance of IS research, and makes IS research out of touch with the needs and interests of industry. This tension is also apparent in the deans' comments. It is interesting to note, however, that many deans are concerned that, in general, business school research is going in the wrong direction and is often not relevant to business.
- *The need for cross disciplinary initiatives.* Because of changes to AACSB accreditation requirements, deans are especially sensitive to the need to break down the academic silos and for various academic disciplines to work together more closely. IS is considered to be a critical player in these efforts.
- *Competitors to IS.* Both IS leaders and deans see potential competitors inside (e.g., accounting) and outside (e.g., schools of information technology) business schools. Deans focus on the external competitors (none of them want to lose IS or see its influence diminished) while IS leaders, not surprisingly, are concerned with both sources of competition.

Several issues were discussed by the IS leaders or the deans but not both, or the issues were discussed by both groups, but in different ways. These differences are important to understand if IS is to bridge the perception gap with an important stakeholder group – deans of business schools. These issues include:

- *Lack of a clearly defined curriculum.* The IS community has worked on recommended curriculums over the years and the recommendations influence the courses and programs offered. Still, programs differ considerably from school to school. More problematic to deans and our other business school faculty colleagues in the business school is the uncertainty

and inconsistency in what is taught in our undergraduate and graduate core (i.e., common body of knowledge) courses.

- *The cost of information technology.* Because they must find the funds, deans are very concerned about the cost of information technology. This issue was not mentioned by the IS leaders. IS faculty members (and other faculty as well) see information technology as a requirement for performing their jobs, much like a laboratory is a requirement for a chemist, and believe that their universities should make up-to-date technology available.
- *The number of IS journals.* The issue of whether there are too many IS journals is important to some IS leaders but it is not a concern for the deans. One related remark was made by a dean who said that second-tier journals publish the most relevant research (which he feels is good) because they are more willing to take risks. A European dean commented that there is no appropriate European IS journals.
- *AMCIS and ICIS.* Some of the IS leaders were concerned about a lack of research rigor at AMCIS. Others felt just the opposite and pointed out that AMCIS was designed to be a very inclusive conference. The deans did not mention AMCIS or ICIS. Several did express, however, a generally low regard for conference proceedings. As a result, it will continue to be an uphill battle to get papers in the ICIS Proceedings recognized as the equivalent of quality journal articles.

V. CONCLUSION

Based on the interviews with the deans and the comparison with the IS leaders, the authors offer several suggestions for furthering the IS academic field. The recommendations can all be accomplished within the framework of AIS and ISWorld. They include:

- *Work on branding IS.* Given the number of students majoring in IS (or its MIS and CIS variations), it is surprising that so few people know about the

existence of the IS major, where it is organizationally housed on campus, and what course work it entails. When discussing computing careers, the media always mentions computer science but seldom IS. While the situation improved recently, the field's identity problem affects the demand for IS services, the resources that are available, and its overall recognition and status.

With the formation of AIS, the field has a mechanism for creating a brand identity for IS. The process might begin with the appointment of a task force to address the issue. One of its activities might be to take an inventory of existing IS programs, the number of students enrolled, and how many students graduate each year. This information could be an important part of the message that would be communicated to non IS faculty in business schools, universities, the business community, funding organizations, the media, the government, and the public.

- *Strive for more consistency in courses.* Over the years, a number of task forces developed and promoted recommended curricula for IS programs. The most recent was the MSIS model program published at the beginning of this year (Gorgone and Gray, 2000). Supporting these efforts, ISWorld pages contain curricula-related materials. These are positive efforts and should be continued.

It seems especially important to come to a consensus on what should be taught in the core IS courses for the general BA and MBA. Deans view the lack of consistency in these courses as a weakness of the field. Progress can also be made by using the same name on courses across universities (e.g., Introduction to Database Management Systems) and by using generic course titles (e.g., Introduction to Programming rather than Introduction to Visual Basic) that do not need to be changed frequently.

- *Help provide hardware and software resources.* As a community, the IS academic field has not worked together to make hardware and software resources available at affordable prices. The cost of information technology is a major concern of deans. The “deals” that are made are usually based on personal relationships, with a few notable exceptions such as with Oracle and SAP, rather than for the field as a whole.

It is the authors' experience that vendors are often willing to donate their products (this is obviously much more the case with software than hardware vendors) to IS programs. They respond well to the argument that it is to their advantage to have future IS professionals trained on their products. It is a long-term market penetration strategy for the vendors. The difficulty for the vendors is that they do not know how to structure these relationships and promote them beyond the single university or two that approaches them. This is where AIS and ISWorld can help. An AIS task force could be formed to develop a standard contract between vendors for the use of their products and universities. The same task force could also proactively go to selected vendors to obtain their participation in the program. Vendors that do agree to participate would have their contact information, descriptions of their products, and contract conditions posted to ISWorld. Any faculty member who wanted a particular type of software (e.g., an expert systems shell or a data warehouse) could go to ISWorld to see what is available.

- *Create a new electronic journal that publishes technical research.* The journal could join *Communications of the AIS* and the *Journal of the AIS* as an AIS publications. It would give technical researchers a high quality outlet for their work without having to turn to journals in other fields (e.g., computer science). Currently, the IS field's leading journals publish more behavioral than technical research. It would also send a positive signal about the role and importance of the technical side of IS. Having AIS publish a technical journal

would show that technology falls under the IS umbrella. Overall, it would help solidify the identity of the IS field.

Business school deans and IS leaders agree on most of the important issues facing the field. This is encouraging. Rather than differing on issues, the deans and leaders are sometimes attuned to different issues. For example, deans are more concerned about the cost of providing information technology than IS leaders, since deans are responsible for securing the funding. There are steps that the IS academic community can take to help with many of the issues that are problematic to business school deans, such as reaching out to the hardware and software vendors. It is always wise to help deans solve their problems. As a discipline, we need an on-going dialog with deans about their perceptions of the IS academic field. Understanding their concerns and responding in positive ways should help ensure a bright future for the field.

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