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## Editorial

# Rigor Vs. Relevance: Why Can't We All Just Get Along?

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The debate of rigor versus relevance is perhaps as old as academe itself. I can imagine Socrates being questioned by a Greek merchant as to the benefits and applicability of his philosophy. Certain disciplines are less impacted by this debate than others. The natural sciences- physics, biology, chemistry, etc - thrive on "basic" research with application in the *areal world* perhaps decades away. These academic disciplines receive scant criticism from their practitioner communities and in many cases their discoveries are heralded by the general public. Social scientists, particularly those of us closely tied to their practitioner communities e.g. business, are criticized by some for failing to produce knowledge that is directly applicable to their constituency. Yet members of the academic community state that it is the mission of their field and by their training to contribute to the body of knowledge which over time "trickles down" to the practitioners. Hence the foundation of the rigor versus relevance debate.

The impression that academe and practice are moving apart is not new nor is it restricted to a single discipline or group of disciplines. In 1990, Business Week quoted two well known business school deans stating that "as much as 80% of management research is irrelevant." Practitioners and researchers have often held stereotypical views of each other, with practitioners viewing researchers as interested only in methodological rigor while failing to concern themselves with anything in the real world, and researchers damning practitioners for embracing the latest fads, regardless of theory or evidence. These views are prevalent across many disciplines including organizational psychology, health care and nursing (Rohrer 2000, Browman 2001),

management (Mintzberg 1977), economics (Gordon 1976), public administration (Streib 2001), and not surprisingly information systems (see following section). This paper focuses on the recurring debate of rigor versus relevance within the IS discipline and is organized as follows. The first section explores the definitions of rigor and relevance, followed by the academic perspective and a discussion of the potential causes. Next an examination of what constitutes research and applicable methodologies and outlets. The paper closes with suggestions for an equitable resolution to the debate and a discussion the contribution of this journal and its objectives.

### **Rigor vs. Relevance - Understanding the Debate**

This section defines and discusses the rigor and relevance while reviewing the tradeoffs of one versus the other. Rigor is generally the easier of the two terms to define and describe. It is used to refer to the degree to which a work follows prescribed procedures for conducting research and producing results. Items examined when reviewing academic manuscripts for journal submission include (but are not limited to) the depth and breath of the literature review, linking the research's constructs to theory, appropriateness of the sample, the applicability of the methodology, and selection and execution of statistical methods of analysis. Relevance, on the other hand, is much more difficult to describe due to its subjective nature. Some have argued that the selection of topics interesting to practitioners makes a project relevant, while others suggest that unless the work's findings are actionable to practice that practitioners will not consider it relevant. Thomas and Tymon (1982) provide an in depth discussion of relevance. They review practical relevance or usefulness of research as composed of a series of components.

Descriptive relevance refers to the accuracy of research findings in capturing phenomena encountered by the practitioner in the organizational setting (Thomas and Tymon 1982, 346). Drawing from Kilmann (1979) they examine internal and external validity of studies. Researchers prefer high levels of internal validity which allow greater levels of confidence about the conclusion drawn from a data set. These studies are generally set in laboratories or with conditions that have high controllability and are considered superior in terms of rigor. Unfortunately, these conditions yield data and results that are of weaker external validity or applicability in the practitioner world. This discussion has been extended suggesting that researchers are ignoring organizational phenomena that are less observable and not conducive to highly controlled settings.

Goal relevance is the correspondence of outcome variables in a theory to the things the practitioner wishes to influence (Thomas and Tymon 1982, 347). Widely commented on across social sciences, it is the practical contribution of research. Lewin (1951) suggested a means/ends linkage that provides practitioners with knowledge of the effectiveness of alternatives of findings but cautions that this requires close cooperation of researchers and practitioners to understand requirements and parameters of the situation. Operational validity concerns the ability of the practitioner to implement action implications of a

theory by manipulating its causal variables (Thomas and Tymon 1982, 348). Regardless of the practitioner community's interest in the topic and the finding, lack of implementability decreases relevance. Critics of academic research suggest that researchers are more interested in epistemology validity. Others argue that conditions are critical because the ability to control or manipulate key organizational variables in a working organization might cause irreparable damage to that organization.

Timeliness concerns the requirement that a theory be available to practitioners in time to use it to deal with problems (Thomas and Tymon 1982, 349). The time frames of academics and practitioners has always been divergent. A recurring criticism of academe is that the phenomena under study changes faster than science can understand it completely. As a result, rapidly changing phenomena will never be completely described or understood before they vanish or morph into a new phenomena.

An interesting element of this debate is the dipolar nature in which it is conducted. An uninformed reader might assume, based on the writings, that the terms are mutually exclusive. Yet, that is far from the truth or the preferred outcome. Neil et al (2001) suggest a model that does not require this all or nothing tradeoff. Their model begins with Popularist Science (high relevance/low rigor) that is highly applicable but with methods that call into question. Hardly an ideal situation. The model further explains Pragmatic Science (high relevance/high rigor) which presents the "best of all worlds." The technique is anchored in sound scientific methods that explore topics of current interest, and yield applicable results. Serving as a starting point, this type of study can be presented in various ways to appeal to varied constituencies.

### **Rigor vs. Relevance in Information Systems**

Few, if any issues discussed within the IS academic community stimulate debate like the recurring theme of rigor versus relevance. Systematically revisited every few years (the latest in February 2002), the debate includes the role of academics in support of the practitioner community, the most applicable type of research, and perhaps most contentious the "right" journals to publish in and how to rate them. While not endorsing either position, this section examines this healthy debate.

With regard to rigor and relevance, the first question that is generated is usually the role of the academic community in support of the practitioner community. The rigor position states that the role of academics is to produce several commodities including qualified students and "basic" research findings that expand the body of knowledge. While the relevance position indicates that in addition to students, researchers should produce findings that are directly applicable and implementable in the practitioner community. The cases made by both sides are impassioned and include statements such as "few business people waste their time with academic research (Summary of responses ISWorld, Deepak Khazanchi 2/08/02)," "there is no relevance to practitioners (Summary of responses ISWorld, Deepak Khazanchi 2/08/02)," "academics are two to three years behind the practitioners (Murray Jennex ISWorld 2/11/02),"

and “research generally is not directly applicable to practitioners (Detmar Straub ISWorld 2/10/02 citing Astley and Zammuto 1992, Maues and Phillips 1995).” Others suggest that it is the role of academics to “serve” practitioners implying “providing a means to solve important problems (Danny Brash and Tony Cresswell ISWorld 2/16/02).” The discussants all seek the same goal - the advancement of our discipline - yet the ultimate attainment of the goal varies in execution.

The second issue is a derivative of the first. What is the “most appropriate” type of research to conduct? An examination of the ListServ thread denotes that again the arguments are two-sided. One side suggests that academics should conduct “basic” research with the purpose of building knowledge (feeding into books/articles/curriculums) (Detmar Straub ISWorld 2/10/02). This argument is often extended to suggest that the research should be conducted using the classic scientific method of experimentation and observation. Others propose that “applied” research is the best use of the academic community’s time and should produce results directly applicable to immediate practitioner concerns (Paper 2002). This position is often accompanied with calls for methodologies used in the social sciences, e.g. action research (Duane Truex ISWorld 2/12/02). The middle ground in this facet of the debate submits that there is room for both and that basic research creates a foundation that should be built upon by applied research.

The third issue in this debate is that of publication outlet and is dependent on the previous issue. This issue is composed of two components - why do academics publish in certain journals (including who reads them) and how are those journals ranked. It is generally recognized that academics, like other well informed consumers, wish to apply their efforts where they derive the most return. It comes as no surprise to any one who understands the promotion and tenure system in place in almost every university that publications in “A” tier journals - usually the most rigorous - are career enhancing. Therefore, given the choice and the nature of the reward system most academics would prefer our work to appear in those outlets. That said, we find that generally, the most rigorous journals in most disciplines (not just IS) are not read by practitioners and as it has been suggested (Bruce Rollier ISWorld 2/10/02) by many of us. An examination of the top ranked journals finds that the majority customarily accept “basic” research articles using scientific methods for design, collection, and analysis of data. These journals usually have longer review times (Cabell and English 2000), potentially diluting the relevance of time critical topics of interest to practitioners.

Straub suggests that these rigorous “A” tier journals are designed for the “internal transfer of knowledge” among academics. Joe Williams of Sun Mirco (ISWorld 2/12/02) suggests that there is no greater professional risk than putting your ideas in front of 100,000 IT professionals for evaluation in trade magazines. Interestingly, the most rigorous IS journals have circulations of under 5000 per issue (Cabell and English 2000). Despite the eloquent arguments on both sides of the rigor versus relevance debate, the IS community finds itself no closer to a definitive answer.

## Importance of the Debate and Root Causes

The importance of the rigor vs relevance debate is illustrated by the length of time it has continued and the variety of disciplines involved. As discussed above, both sides believe that their position is the correct one. Given these factors, one might ask why this debate is important at all. Perhaps it is best to let academics continue their focus on rigorous methods and narrowly focused results while practitioners focus on “getting the job done.” It is conceivable that academics continue to conduct their research and publish in their internal journals while practitioners ignore their work, read journals targeted toward them (discussed later) and focus on workplace initiatives. Some might argue that this “separate but equal” status quo has existed for decades.

Unlike our natural science brethren, social scientists are inexorably linked to the practitioner community. As stated above, few academics will argue that one of our tasks is to develop future members of the practitioner community. These students are one of our “products” and academic institutions require the input from practitioners to insure that this product meets their requirements. It is unrealistic to think that even the best of our institutions can do this without practitioner input. Second, by definition, we are social scientists studying phenomenon that occur in organizations populated by practitioners that for better or worse are linked to academe through a symbiotic relationship. The problem is that many on both sides of the argument do not want to admit it or feel they know what is best for the other. The next several paragraphs explore some issues that impact the debate (while striving to present both sides and not concluding that one side is right or wrong).

*Who learns from whom?* What is the source of knowledge? Is there a Delphi or spring from which knowledge in the IS discipline flows from? We in academe hold that there are centers of knowledge or perhaps more correctly, centers where specific topics are researched and from where findings are promulgated. For instance, Arizona State University is widely recognized as a center for research on Group Decision Support Systems. The methods used in these centers as well as at most research institutions is strikingly similar to those used in the natural sciences including exploration of previous literature to develop theory and hypotheses, a controlled experiment with dependent and independent variables and a sample (usually large enough to support parametric statistics), collection and analysis of data, and then generalizing the findings to the population as a whole. Once the project is completed, a manuscript is created, and sent to a journal for double blind review. The researchers are satisfied once the paper is published that they have met their objective and contributed to the body of knowledge. The process from inception to fruition can take as long as several years.

For practitioners, this process appears slow and out of touch with their day-to-day operations and does little if anything to help them solve their problems. They might ask the professors that just published a major study how can that be used to improve their operation or save their company time or dollars. I once had a CIO ask me about my research agenda. He was very interested in a variety of subjects also of interest to IS academics at the time. We discussed some of the

topics and in particular their applicability to his business and how that knowledge could be widely disseminated. His next question caused me great concern. He wanted to know how this information was communicated to my students. I had to admit that my research and the topics covered in the classroom was separate with perhaps the exception of Doctoral candidates. As I thought about the question over time, I could find a number of reasons to justify what and why we taught certain topics but wondered if my research was so disconnected from the real-world that I could not share it with tomorrow's leaders? So I presume that the question on the part of practitioners is, "If academe is the source of knowledge, why don't academics do a better job of sharing that knowledge outside our own community?"

Who learns from whom? In social science the answer is both academics and practitioners learn from each other. Using a natural science approach, the academics would conduct "basic" research with the results of that research applied by practitioners to derive applicable results. The social sciences, in particular the business disciplines are not so simple. The world of the practitioner and the target environment of academic research is a dynamic and fluid environment and unlike the natural sciences, the "laws" governing that world are not fixed. For instance, in the IS realm, years of research can be rendered non-applicable with the introduction of a new technological innovation or a change in the legal or political environment. This does not mean that the research is any less rigorous or valid from a theoretical standpoint, just less applicable to practice. This point can be extended to help us understand what constitutes knowledge. As the example above illustrates, knowledge is the result of sound, systematic, and well executed theoretical-based research. It is timeless and facilitates the understanding and explanation of a phenomenon that may or may not occur in the real-world. To practitioners, knowledge is actionable information that facilitates the execution of their tasks to an outcome. That outcome being a function of their goals/objectives. Hence, one might propose that practitioners are pragmatic while academics are idealistic.

*Speed of change.* Speed of change is one potential answer to the questions posed above. Academe and practice operate on two significantly different time schedules with clearly different ultimate objectives. As illustrated above, academe's focus is a methodical process that uncovers and explains cause and effect. Researchers are commended for creating an exhaustive literature review, while examining even the most minute factor that contributes to the equation. A thorough, yet time consuming analysis of the data and evolutionary support for scientific theories is lauded. Whereas, practitioners are concerned with daily operations, the solution to immediate term problems/opportunities, and the impact on their business - which translates to the "bottom line."

Speed of change is critical to IS practice. What is sometimes referred to as a "fad" by the academic community is the means through which practitioners make their living. Practitioners can not afford to wait several years to determine if one variable is more applicable to their situation than another. For if they did, the results might be of little practical significance, since the topic is no longer important. It is difficult to argue that one side is more correct than the other, only that their priorities are different. It is doubtful that innovations that drive IS practice will slow, as a matter of fact, the field's brief history suggests that these

innovations will be introduced more frequently and will have great impact on the organizations that utilize them.

*Rewards* The vast majority of both academics and practitioners operate under systems that are reward based. Promotions and change in compensation are directly tied to career achievements and milestones that are accomplished. An examination of the psychology literature finds that rewards and motivation are significantly correlated. Given that consideration, it should come as no surprise that since academics and practitioners operate under different reward schemes, that they have different motivating factors. Practitioners are driven by incentives to complete projects on time and on budget or to insure that systems support critical functions so that businesses operate at peak efficiency and effectiveness, maximizing profitability. They are not required to keep abreast of theories or to take a test on the contents of journals, unless they are studying for an advanced degree and perhaps not even then. They are motivated by issues and topics that can assist them in meeting their targets leading to promotion, regardless of their origin.

As stated earlier, academics operate under a different and somewhat unique system of promotion and tenure. They are motivated to publish in top tier journals which hold researchers to extremely high standards of academic rigor. Within the current system there is little to no incentive for researchers to publish their works in journals targeted specifically to practitioners, which seek a higher degree of relevance and some might add, at the expense of rigor. One wonders what changes might be in store if academics were rewarded for ideas that business could translate directly into cost savings, improved productivity, or enhanced effectiveness.

### **Finding a Common Ground**

Thus far, it appears that there is no common ground between the academic and practitioner communities. Many on both sides refute this and believe that academics and practitioners exist in a symbiotic relationship. To start with, there needs to be an understanding that while both rigor and relevance are important and exist together, the standards used to evaluate them are qualitatively different. As a result both academics and practitioners must work together to explore, develop, and produce studies that benefit both communities. This is my first recommendation, the involvement of practitioners in research studies. While difficult at best, this solution presents a method to bring both communities together. I am not suggesting that academics turn practitioners into quasi-academics interested in deep theoretical problems or vice versa. I am suggesting collaboration of both communities in projects of common interest. This is not unusual in other fields, for instance health care academics also have clinical practices where they pardon the expression, "Practice what they preach."

I clearly understand the problems associated with trying to develop and conduct practical research projects in organizations. A more reasonable approach might be to inform other researchers of the aspects of a practitioner's situation, initially in the form of a conceptual study with additional research projects developed based on the communities' input. Another approach might be

to involve practitioners in the feedback and review process of specific parts of a research study. Here I am not suggesting that practitioners delve into the intricacies of high level statistical techniques but more into the problem statements, findings, and discussion. Their input could provide insights not considered.

My second suggestion concerns the type of research being conducted. It is understood that theoretical-based academic research will not be abandoned. Yet there are additional methods that can be employed that will create a wide audience for academic endeavors. Applied theory (Zmud 1996) is a method where researchers apply academic theory to solve practical problems. This method holds similar evaluation criteria as traditional theory testing research. Two additional models of practical research are evaluation research and policy research (Davenport and Markus 1999). Evaluation research applies practical as well as theoretical criteria to the assessment of an intervention in an organization. Policy research develops new concepts, solves practical problems, or systematizes, generalizes, or clarifies concepts. While widely accepted in other disciplines, they are currently outside the definition of acceptable IS research. This is not to say that at some point they will be become accepted.

A variety of research techniques have recently become accepted in information systems and other disciplines. For instance, it is only recently that the case study method has been adopted as an acceptable method in the IS discipline as a result of a seminal paper by Lynne Markus (1983). This method provides ample opportunities for researchers and academics to join forces to study phenomena of joint interest. The results of a case or series of case studies can support theory building as well as help identify and solve problems in organizations. Another method recently enjoying wider adoption is action research. This method, more widely use outside North America, places the researcher as an integral part of the change process in the organization. One of the expressed goals of this method is to help solve organizational issues and then turn control of the process over to the organization. By definition, these methods cannot be conducted without both academics and practitioners working directly with each other.

Style of presentation is yet another issue to be resolved. Regardless of the rigor, relevance, or even the interest in the topic, academic papers are difficult to read. Benbasat and Zmud (1999) indicate that if articles are not read, regardless of their content, they are not relevant. They provide a list of attributes of articles read by practitioners that include: shorter, use more exhibits, use everyday language, less discussion of literature and methods, hold more prescriptions, etc. This clearly presents a problem for IS researchers seeking to publish in top tier journals. There are a number of solutions to this dilemma. The first is to publish two versions of the study, one for the academic audience and one for practitioners (assuming that the topic is of interest to them) in separate journals, although some might suggest that this violates academic integrity or journal copyrights. Another is for our academic journals to publish a rewritten version for the practitioner. Yet another would be to develop a journal that appeals to both parties and occupies the middle ground. A case in point is the transformation of *Communications of the ACM* to a journal composed of shorter papers (3500 words) with most issues tied to a common theme.

## **Journal of Information Science and Technology (JIST)**

The creation of this new journal is, in part, the result of the rigor vs. relevance debate. The goal of the sponsors - SAP software and the Information Institute - and the Associate Editors and myself is to assist in bridging the gap between academics and practitioners. We seek to produce a journal where both academics and practitioners will be interested in publishing their works and all parties will find articles on current topics, investigated using sound methods, and written in language that all readers will understand. This means addressing the concerns of both sides of the debate.

Publishing a journal to satisfy both rigor and relevance is difficult at best. The journal seeks submissions from both practitioners and academics that are descriptive and goal relevant with high degrees of operational validity and timeliness. Yet, we also strive to maintain high levels of rigor. Understanding the trade offs, JIST encourages a rich variety of methods which include qualitative as well as quantitative techniques. Conceptual papers tied to "workplace" case studies will open the journal to practitioners as authors while allowing them to capture the priceless experiences that are potentially overlooked in quantitative studies. The Associate Editors and myself have volunteered our time and experience to assist practitioners in developing their work to journal format. We additionally encourage all academics to enhance their practitioner alliances into partnerships, helping these highly experienced individuals share their successes and failures. Formalizing this goal, JIST seeks to publish at least one article per issue by a practitioner or partnership.

The journal is creating a semi-autonomous process to review practitioner submitted papers. These submissions will be subjected to the same double-blind review process as academic authored papers. The three reviewers will be composed, when possible, of two practitioners and one academic. The review will be conducted within the same criteria as all submissions but will reviewers will be informed that it is a practitioner submission and will be directed to focus on content and applicability of findings. Each practitioner submission will be assigned to an Associate Editor who will assist the author(s) with issues such as writing style, referencing, formatting, suggested revisions, etc. As Editor-in-Chief, I also welcome special issues co-edited by an academic and practitioner. This provides the opportunity to delve into a particular topic and examine both theoretical and practical perspectives in the same issue, an information sharing approach that should provide stimulating reading and discussion.

JIST also seeks to address the length of time to complete the review and revision process. Once a paper is received and screened by the Editor-in-Chief (we currently accept only electronic submissions), it is forwarded to the Associate Editor who has 45 days to complete the initial review, performed by three double blind reviewers. The work is then returned to the Editor who completes the process and reports the findings to the author(s). The entire process should be completed in less than two months. Revisions and resubmissions will take priority once received. This process should provide authors with feedback and eventual publication while their topics are still current and applicable to practitioners. Additionally, JIST has a strong group of advisors from industry that

Associate Editors regularly consult for advise and suggestions for submitted papers.

Overall, our goal is to create a forum that will be shared by ALL members of our community, open to discussion and debate. Regarding the question, "Who learns from whom?" It is our deepest hope that we will all learn from each other. In reality, we seek to build relationships between practitioners and academics and strongly encourage all professors, especially those in senior ranks, to consider "adopting" practitioners, an experience that could benefit their students. I am happy to reserve space within the journal for any reader with ideas, suggestions, or interests to post them in hopes of obtaining the support they need. The sponsors, Associate Editors, and myself welcome your comments and suggestions.

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