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Social Activism in Information Systems Research: Making the World a Better Place

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SOCIAL ACTIVISM IN INFORMATION SYSTEMS RESEARCH: MAKING THE WORLD A BETTER PLACE

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ABSTRACT

This paper reports on a panel held during the 2006 International Conference on Information Systems (ICIS). The panel titled, "Social Activism in IS Research: Making the World a Better Place," was organized to question whether and how Information System (IS) research is making tangible impacts to our society. More specifically, each panelist was asked to address: (1) How can IS research, and researchers, make contributions to underdeveloped societies and underserved communities?; and (2) How can IS researchers learn from the particularities of these communities to inform better research, teaching, and service? While each panel member had different perspectives to offer in relation to these two questions, all agreed that IS academe needs to raise its awareness and efforts considerably with a view to address the needs of underserved communities.

I. INTRODUCTION

Information Systems (IS) can play a salient role in the transformation of our societies, especially in less-developed (or underserved) communities [Drori and Jang 2003; Walsham 2005]. IS can be used to benefit citizens in these societies through improvements in education, government, healthcare, social, and entrepreneurial systems. Advanced societies initially depended on IS to boost their development. It would be a mistake to think that underserved communities can

develop without IS, and understanding the optimal deployment of those systems is crucial to social activism work. The realization that IS offers potential benefit to improve the livelihood of the less-privileged is not new or recent[1]. However, the issue that still remains to be adequately addressed is what the role of IS researchers should be in addressing the needs of the underserved communities [Krishna and Madon 2003].

On a philanthropic level, we might believe that IS researchers should get involved in addressing the needs of the underserved communities. However, the pragmatic issues of understanding the required steps to assist with the actual needs and deployment of IS throughout the world have not yet been fully explored. Hence, the question is raised: Is addressing the needs of the underserved communities a lofty ideal or an actionable proposal? It would, in our view at least, be irresponsible to leave the issue as a lofty ideal. Hence, we should address the question: How can we transform IS deployment for development from a lofty ideal to an actionable proposal?

The answer may involve transforming the structure of our academic community by reexamining the fundamentals – teaching, research, and service. Examining these fundamentals, we should ask how our current goals, incentives, and efforts address the needs of underserved communities. More specifically, we must look at our degree of cognizance of the needs of underserved communities when we chart our goals, plan our efforts, and devise incentives. Moreover, we must recognize that studying IS issues in underserved communities can inform and deepen our understanding of contemporary research issues. For example, the IS infrastructures in underserved communities will not resemble those of their counterparts in developed societies. We should look at how newer designs (e.g., wireless-based networks, digital libraries, and so on) can revolutionize traditional practices in advanced societies. Hence, while IS research that has been conducted in advanced societies can contribute to efforts in the underserved communities, we must also appreciate the reality that IS deployments in underserved communities can in fact inform our current research problems, approaches, and even the practice of IS throughout the world.

Unless we take steps to transform the current structure of academe to make significant impacts on how we conduct and disseminate research (e.g., appreciating the difficulty of solving messy problems in underserved communities), educate our students (e.g., engaging students in the generation of knowledge that can be consumed by underserved communities), and engage in societal efforts (e.g., rewarding efforts geared towards building bridges between social organizations such as the U.N., UNESCO, the World Bank, and the IS scholarly community), we risk being spectators to the impact of IS in underserved communities rather than directing this effort. This position is not only undesirable, but also irresponsible. Being uninvolved risks underutilizing and misusing the intellectual resources that have taken considerable effort to develop.

At the 27th International Conference on Information Systems [2006], a panel of scholars was organized to debate how IS research can make significant impacts to the underserved communities in our society. This panel grew out of a debate, another panel, which was held at the 26th International Conference on Information Systems [2005] – "Beyond Rigor and Relevance towards Responsibility and Reverberation: Information Systems that Really Matters" [Desouza et al. 2006]. It was during this panel that the notion of IS research needing to be "responsible" to its stakeholders was raised. During the ensuing debates, and email exchanges with the panel members, many from the IS academic community commented that we need to do more, thus making for the genesis of this panel.

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[1] Refer, for example, to the work of the International Federation for Information Processing (IFIP) Technical Committee 9 (http://www.info.fundp.ac.be/~jbl/IFIP_tc9/index.html), and in particular to that of Working Group 9.4 (http://is2.lse.ac.uk/ifipwg94/).

II. GOALS AND ORGANIZATION OF THE PANEL

The goal of this panel was to encourage change in the IS research community via the Association for Information Systems by debating methods for addressing the needs of underserved communities. Panelists shared their views on the following questions, albeit sometimes choosing to combine responses, and even reframe the questions.

1. How do we build IS research programs that make an impact on addressing the needs of the underserved communities?
2. Is use of IS a cause of development, or does the use of IS expand when communities are more developed? Or is it an iterative process: More development leads to greater use of IS, which in turn promotes greater development?
3. How do we deploy our current knowledge resources to better address the needs of underserved communities?
4. How do we learn from the new and/or unusual aspects of IS deployments in underserved communities to help inform research and practice throughout the world?
5. How do we engage stakeholders outside our research community to develop fruitful alliances to better achieve the goal of addressing the needs of underserved communities?
6. How do we educate and equip future researchers (e.g., doctoral students) and practitioners (e.g., graduate and undergraduate students) to be sensitive to the needs of underserved communities?

Kevin Desouza, the panel chair, set the stage for the debate by sharing examples of IS research aimed at making impacts on underserved communities. Bob Galliers discussed the issues involved in leveraging the AIS community to build a truly global community of researchers to engage in scholarly pursuit of difficult problems that impact underserved communities. Phillip Ein-Dor discussed the pragmatics of doing research on problems of interest to the underserved communities by examining the problem of the digital divide. Rick Watson engaged the audience with his thoughts on building a symbiotic and integrative relationship between research, teaching, and service. He explored how the three goals of academicians can be integrated to meet the needs of underserved communities via the Global Textbook project. Don McCubbrey shared insights on how academics can better engage with practitioners to enhance the quality of our research efforts targeted at underserved communities. Finally, Michael Myers, as President of the AIS, challenged the audience to articulate approaches that can not only broaden our knowledge about underserved communities, but that will also inform how we design and manage IS in the developed world.

III. THE VIEWS

Following are the views of each panel member in his own voice. The commentary is broken down into three sections: (1) defining the role of IS scholars in addressing the needs of underserved communities; (2) the research approach required to make actionable steps toward addressing the needs; and (3) how might we build a community that is aware of, and responds to, the needs of the underserved communities.

PHILLIP EIN-DOR

Defining the Role of IS Scholars

The intention to address the needs of those most in need of assistance is indeed a lofty ideal. I believe that this ideal is also actionable. Programs aimed at reducing digital divides have been formulated and are at various levels of execution in many areas. Some examples are:

- Korea: The Korea Agency for Digital Opportunity and Promotion is facilitating various

programs in order to bridge the digital divide.

- UK: A seven-point plan to tackle Britain's digital divide has been unveiled by the government.
- EU: EU ministers have committed to an inclusive and barrier-free information society.
- Africa: Statement of the Free and Open Source Software Foundation for Africa (FOSSFA) . . "FOSSFA, in partnership with Governments, intergovernmental organizations, civil societies and other stakeholders, will spearhead initiatives that build skills through education and empowerment of women and youth. Lobby all stakeholders to adopt open source as the platform to engineer solutions that meet the needs of the people."

Thus, policy makers are aware of the discrepancies in digital access between developed and disadvantaged communities and are beginning to take action to reduce those discrepancies. The greatest contribution of IS researchers would be to devote efforts to studying and understanding the phenomenon of digital divides. Following are examples of research questions:

- What are the sources of digital divides and what are their relative weights?
- How do we develop validated measures of digital divides?
- What are the methods of tracking the dynamics of digital divides?
- What are the relationships between IS and economic development? Is use of IS a cause of development, or does the use of IS expand when communities are more developed? Or is it an iterative process: more development leads to greater use of IS, which in turn promotes greater development?
- What the effects of various methods for ameliorating the problem and in what order or in what measures or combinations are they best applied? For example, should education precede provision of IS or should IS be provided as a motivator?
- How do we establish efficacy, mobility, and scalability of solutions?

I am not sure we need to restructure our academic community, but it is necessary to realign goals and incentives if we are serious about playing a role in this area. For example, include digital divide issues in curricula (see recent discussion on ISWorld of using "The World is Flat" in class) and provide incentives for community teaching in deprived areas (e.g., by giving them greater weight in promotion and tenure proceedings and decisions, and encouraging research in digital divide issues as above via funding and publication opportunities).

On Research Approach

First of all, one has to have a kernel of people interested in studying the issue. In terms of resources, a number of bodies at the national and international levels are interested in research concerning digital divides and are potential sources of research questions and funding. At the global level, the International Telecommunications Union (ITU), the United Nations Conference on Trade and Development (UNCTAD), United Nations Department of Economic and Social Affairs, and the EU Framework programs all have great interest in these areas.

Every developed society, at whatever level, has larger or smaller pockets of underserved communities. Some of the methods found effective in bridging divides in one community, region, or country may well be effective in others. This is especially true of cheap technological solutions and for divides arising from demographic factors such as age, gender, and physical handicaps.

In order to employ current knowledge, it is necessary to map the knowledge we have into the causes and cures of digital divides. If, for example, the problem is one of affordability of software, we can search for open source or cheap versions. If the problem is one of educational levels, we

could employ our educational skills to fill the gap. However, if the problem is lack of communications infrastructure, there is not much that our particular knowledge can do to help. Thus, the context is of great importance in determining how our expertise can be applied.

On Developing a Like-Minded Community

There are various stakeholders to be considered in addressing this issue. Some that come to mind are leaders of underserved communities, broader community leaders, governmental bodies, interested NGOs, and businesses interested in helping to solve the problem. Obviously, the approach to each type of stakeholder must be adapted to the context. In some cases, research and/or consulting may be appropriate; in others, direct involvement in solving problems may be more pertinent.

IS students should be sensitized to the scope and importance of the problems and equipped with the means of contributing to their solution. Virtually the only communities addressed by current IS education are communities of managers and business users. In the case of underserved communities, the issue is precisely that they are not current users or managers. Thus, to sensitize IS people to the needs of the underserved, it will be necessary to add modules to the curriculum dealing with this issue specifically.

DONALD J. MCCUBBREY

Defining the Role of IS Scholars

Social activism in IS research is both a lofty ideal and an actionable goal. Too often, however, we complain about the gap between reality and the ideal without realizing that it is within our power to take action to close the gap. Instead of complaining about gaps (e.g., the digital divide) we must realize that we can do something about correcting them. Let us not wait for someone else to do it. Recall Goethe: "Whatever you can do or dream you can, begin it. Boldness has genius, power and magic in it. Begin it now."

Moreover, let us not feel that we have to solve a large problem. It is important to realize that if we take action to deal with a piece of a problem we will (1) make a concrete contribution to meeting the needs of underserved communities; and (2) inspire others to follow our lead. As IS professionals, we possess specialized knowledge on the ways that Information and Communication Technologies (ICT) can be used to address the needs of underserved communities. A key role for us to play is in identifying creative ICT-enabled solutions to pressing needs. The Global Text Project is a good example of IS researchers taking the lead in reducing the high cost of textbooks for students in the developing world. High textbook costs are just one additional hurdle that students in developing countries must overcome in order to obtain the education they need to raise themselves and their countries out of poverty. We understand the concept of strategic IS alignment with organizational goals. What we can do is to apply similar concepts to broader societal needs like global warming, the ever-widening gap between rich and poor, peace through commerce, healthcare and the like.

On Research Approach

A good starting point is to look around and realize that the academic community has already begun to transform itself and that it is time for the IS community to join the trend in a fully committed way. We have much to contribute. The addition of topics like ethics, corporate social responsibility, and sustainable development are of growing importance in business school curricula. There are conferences combining academe, businesses, and NGOs (e.g., the recent Business as an Agent of World Benefit Global Forum [BAWB 2000]. The principal academic association co-sponsor of BAWB was the Academy of Management).

Turning to another academic discipline, *Fortune* magazine had a recent article documenting the contributions made by academic researchers in uncovering the stock options backdating scandal in the U.S. [Fox 2006]. In short, social activism is beginning to move into the mainstream of

academic research. There is ample evidence that students are much more sensitive to the importance of societal issues than ever before. For example, excerpts from a survey of over 2000 MBA students in 2006 revealed that, among other things:

- 89 percent of students say that business professionals should take into account social and environmental impacts when making business decisions.
- 81 percent of students say they believe that businesses should work toward the betterment of society (such as a healthier environment, the eradication of poverty, and other societal issues).
- 18 percent of students believe that most corporations are currently working toward the betterment of society [NetImpact 2006].

Another survey found that "today's young people expect corporations to be socially responsible and that students prefer to associate with brands that they perceive to be positive contributors to the community" [Alloy 2006]. AACSB has a Peace through Commerce Initiative which places a high priority on initiatives by business schools to contribute to the public good [AACSB 2006].

As IS academics, we need to put a higher priority on initiating such movements in arenas aligned with our talents. We also need to work to change the definition of what constitutes acceptable scholarly activity to incorporate such initiatives as counting towards promotion and tenure and accreditation. Finally, we should not wait until the definition changes before we engage in such initiatives. It may be that a bottom-up effort is needed to finally effect the necessary changes.

It is ineffective (and usually inappropriate) to try and direct scholars to do their research in certain areas, for whatever reason. Good researchers must follow their own interests and devote themselves to shedding light on issues they personally care about, and care about deeply. Having said that, my impression is that many members of our community would like to devote time to addressing the needs of underserved communities, but they do not feel, for some reason, that it would "count" as much as research in other areas. It is up us and the set of influencers we deal with (senior faculty, APT committees, deans, AACSB, and others) to communicate that research directed toward addressing the needs of underserved communities is accepted, and important.

A couple of points come to mind regarding the novelty of IS deployments in underserved communities. First, researchers should do a proper job of determining the state of the art in what is known about addressing the needs of underserved communities. This entails a search of the literature and most likely extends beyond the IS domain and beyond the academic domain as well. Second, researchers should involve members of the underserved communities in the search for ways to address their needs. Assuming that "we know best" runs the risk of making one of the classical mistakes of a requirements elicitation process.

On Developing a Like-Minded Community

What steps can we take to move forward? First, assemble and facilitate communication among the community of researchers interested in addressing the needs of underserved communities. I am aware of groups such as Computer Professionals for Social Responsibility (CPSR) who have come together, but I sense that there are several disparate, small communities of interest that I am not aware of. AIS could serve as an umbrella organization for such a community. Second, embrace the "open movements": open source, open access, and open content. The cost of protected knowledge assets is a serious obstacle to the free and open exchange of knowledge and is a particular problem for underserved communities.

As mentioned previously, there is a definite trend toward socially conscious efforts among stakeholders outside our research community. All we have to do is reach out to them and show that we are interested in collaborations and have some unique capabilities to contribute. Moreover, as noted, students are already sensitive to the needs of underserved communities. As

senior faculty, we have to let junior faculty and students know it is not only "OK" to conduct research and engage in collaborative problem solving in this domain, but it is strongly encouraged. Finally, we must lead by example.

BOB GALLIERS

Defining the Role of IS Scholars

Addressing the needs of undeserved communities as a lofty goal only is not an option - it has to be actionable. The alternative is to consider our subject matter as being devoted solely to the advantaged. The Scandinavian IS tradition [Iivari and Lyytinen 1999] and the legacy of the work of the late Enid Mumford [Avison, et al. 2006] is to see emancipation as being at the very epicenter of our field. We cannot nor should not allow such ideals to wither in the quest for yet more competitive advantage for the haves as against the have nots. We all have a responsibility to ensure that the issues and problems of such communities are addressed by our research.

More field-based research, involving experiential learning *in situ* is required. This is so because, otherwise we run the risk of peddling our so-called "best practice" solutions in contexts that make those "solutions" entirely problematic, and worse, we fail to learn. Action research in such contexts might well have greater impact than the mainstream approaches that find favor with many journal editors. Our reward systems need to change to take this into account, and there needs to be greater recognition given for such globally socially responsible service.

On Research Approach

First, we need to raise our sights beyond the IT artifact, as argued by some of our colleagues [Benbasat and Zmud 2003], and the narrow focus of IS development within organizations [Galliers 2003]. We need to understand that the field is broader than such considerations as these. This will require putting pressure on conference program chairs and committees, and journal editors, to take such matters seriously and not to dismiss them as being outside the field, or discipline, as it is too often mistakenly called.[2]

I am not entirely convinced that we should be overly concerned that the lessons we have learned from IS deployment in Western contexts *should* apply to other, very different contexts. Indeed, we should not assume that results in one context will necessarily translate into results that apply equally well elsewhere. Information is contextual. "Best practice" is a myth; a siren-call for the unsuspecting; a prop for the lazy.[3] In the same way that we should not expect lessons from the well-served to apply to the underserved, we should not necessarily expect the lessons from the latter to apply to the former.

Bearing this in mind, we should expect to be ill-informed when we start out. Exploratory research will be called for initially, and we should be ready to learn from those in the underserved communities themselves. We should certainly not expect to tell them what to do, but we should expect to listen and learn. First, what are the issues that they believe require investigation? Second, expect the unexpected. Third, don't expect that our taken-for-granted conclusions/assumptions apply equally well.

On Developing a Like-Minded Community

I believe we need to make the boundaries of our field more porous, to open up to the wider social science community, to approach, e.g., the NGO community and offer our services, together with colleagues from fields that can help inform our research. I use the term trans-disciplinary to

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[2] See the debate on the focus of the IS field in King and Lyytinen [2006].

[3] See, for example, Wagner, *et al*. [2006].

describe this approach. It is the spaces between disciplines that require investigation and from which new knowledge will emerge [Gibbens, et al. 1995].

Take a look at traditional PhD programs in the IS field. How many of them deal with topics such as ethics and social responsibility; global commerce, and cultures? How many of them incorporate field-based research approaches, or facilitate the immersion of doctoral students in less well-served communities? How many doctoral committees would even welcome, let alone foster, this kind of research?[4] Take a look at MBA or specialist Master's programs, and ask similar questions. Even in more focused aspects of our field such as human-computer interaction, how many programs consider, say, the special needs of the elderly or groups with some form of handicap?

As a community, do we make it clear that this is central to our mission? Do our leading conferences or journals make it clear that such topics are not only welcome, but are actively encouraged? I am afraid the answer is a most definite "no." They are generally uninterested in such topics, and despise the kind of exploratory field-based work that is required. Research that is inclusive of other groups - or "disciplines" - tends to be discouraged. Such work "dilutes" or even "contaminates" the purity of IS research. Hopefully this panel may lead to a change in the stance being taken by those who control - I use the term deliberately - *our field*.

MICHAEL D. MYERS

Defining the Role of IS Scholars

In the following comments I will speak in my capacity as president of the Association for Information Systems (AIS). I believe that addressing the needs of underserved communities is both a lofty ideal and an actionable proposal. In fact, it is something in which a voluntary, not-for-profit organization such as AIS should be involved.

Many individual IS researchers can play a part by becoming involved in research projects that address the needs of less-developed communities. However, I believe that associations can have far more impact than individuals working by themselves. The American Society for Association Executives (ASAE) points out that associations can play an important economic, social, and policy/advocacy role in our increasingly global society. The key point is that the united, collective voice of an association carries much more weight with policymakers than individuals acting by themselves. Hence, I am convinced that this is something that AIS should support.

On Research Approach

Like Phillip, I am not sure that we need to restructure our academic community, but I think it would be relatively easy for the Association for Information Systems to encourage and facilitate research that addresses the needs of less-developed (or underserved) communities. For example, we could establish one or more regular tracks at ICIS and other AIS conferences on this topic. We could also establish some kind of recognition or award for those IS researchers who make an outstanding contribution in this area.

AIS could become more active in forming effective partnerships with government, business, the media, and other nonprofit organizations. For example, we could form a partnership with other global organizations such as the United Nations Conference on Trade and Development (UNCTAD).

Alternatively, we could just go ahead and establish our own program. The American Society for Association Executives has launched a "Better World Campaign" to promote awareness and

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[4] For a PhD program that *does* include these important topics as an integral part of the program, refer to http://www.bentley.edu/phd/

understanding of the contributions of associations worldwide. Likewise, the AACSB has launched a "Peace through Commerce Initiative." AIS could launch its own campaign to focus on the role of IS in enabling development in underserved communities, and I know that some members of AIS are already involved in this in some way or another.

Perhaps one of the best contributions that AIS could make in the immediate future is to make sure that the lessons learned concerning the development and implementation of information systems in underserved communities (both the successes and failures) are published in our journals and conferences. This would ensure that the lessons learned are made widely available to others. Before AIS rushes into a specific deployment of resources, I would like to see some research into how best we can address the needs of these communities. Our engagement should be thoughtful. I have read too many cases of well-intended "help programs" for developing countries that in the end did more harm than good.

On Developing a Like-Minded Community

I believe the question of engaging stakeholders outside the research community is the key to ensuring any action on the part of AIS is successful. It is essential that we engage other stakeholders before we rush into doing something. For example, we would need to engage with researchers in development studies and economics to make sure that whatever we do is the "right" thing – as far as current best thinking in this area is concerned.

Again, I believe one of the best ways for AIS to contribute in the immediate future is for there to be regular tracks at our conferences on this topic. We need to equip our students to be sensitive to the needs of underserved communities, and we need to ensure the raising of awareness of this issue amongst IS faculty more generally. Longer term, I think it would be appropriate, after careful thought and research, for AIS to also launch some kind of campaign.

RICHARD T. WATSON

Defining the Role of IS Scholars

A fundamental principle of business is that needs create markets and thus business opportunities. Underserved communities are often underserved because no one has yet worked out how to meet their needs in a profitable manner. Too often, this is because the solution is attacked from a cost rather than a price basis. Starting with the price point and designing a product to hit that price point is often more fruitful. Thus, in my opinion, meeting the needs of the underserved is realistic. The ideals can be lofty and profitable, as in the case of Hindustan Lever's two rupees cake of soap that, when combined with health education on hand washing after defecating, significantly reduces diarrhea in a target market of 200 million [World Business Council for Sustainable Development 2005].[5]

IS scholars teach students how to create and use information systems to solve business problems. As I see it, addressing the needs of the developing world is a business problem because solutions need to generate surpluses, or profits, to sustain them. Thus, IS researchers need to be engaged in developing information systems that aid in meeting the price points of low-income markets. Information systems can be used to reduce the cost of many aspects of business (e.g., coordination, logistics, information dissemination).

For instance, labor markets in many third-world communities are disorganized and information poor. There are many who want jobs, and there are those who can afford or need to hire people

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5 http://www.wbcsd.org/Plugins/DocSearch/details.asp?DocTypeId=24&ObjectId=MTcyNzk&URLBack=%2Ftemplates%2FTemplateWBCSD2%2Flayout%2Easp%3Ftype%3Dp%26MenuId%3DMTY3%26doOpen%3D1%26ClickMenu%3DLeftMenu

on a short- or long-term basis. Labor markets, however, are very inefficient. Buyers and sellers have difficulty in matching their needs. In rich economies, the Internet, newspapers, and yellow pages are forums for connecting buyers and sellers. The poor do not have access to the Internet and newspapers, but many have cell phones or know someone who has a cell phone. IS scholars have the skills to design a cell-phone-based labor market, but we do not tackle these sorts of problems because our incentive system is based on incrementing the social science body of knowledge.

IS scholars on the whole act rationally and respond to incentives. Until we realign incentives, little will happen. We might use some of our discretionary time for social activism, but the bulk of scholars will respond to the call of tenure and promotion committees and study what has happened rather than creating a better future for their fellows.

It is time for academic social responsibility.

On Research Approach

We could take our traditional approach and study the outcomes of interventions designed to meet the needs of the underserved. Fundamentally, this is no different from investigating the results of implementing ERP or why companies adopt open source software. It means taking some social science theories, adding a dollop of IS content, and undertaking theory testing or theory extending.

A bolder, and I suggest more rewarding and fruitful, approach is to get involved in wealth creation and design, build, and implement solutions. The world values wealth creation, and creating wealth in underserved communities is socially and financially valued.

An IS research program that realigns itself around wealth creation can, I believe, make an impact. This of course is not a trivial transformation, and it means promotion and tenure committees need to redefine standards and adopt a new view of scholarship. However, in a world facing global change, maybe the glacial speed at which universities operate is also melting. We need to get the intellectual resources of the world full engaged in facing the immense social and technological issues we confront collectively if we are to preserve our biosphere in something akin to its current form, and maybe even preserve our species. It is time to give up our almost myopic focus on social science theories while the globe overheats. It is time for IS scholars to be fully involved in solving the critical problems of human civilization.

No nation has a monopoly on creativity, and I am reminded of a story told by a friend who runs an engineering company in Perth. He hires many of his engineers from South Africa, because they have learned how to do more with less than their Australian counterparts. When resources are scarce, people are imaginative in using what they have. In a world where nonrenewable resources can only become scarcer, we need to learn how to do more with less in IS and most other disciplines.

Doing more with less is the heart of conservation and sustainability. Thus, we should partner with our IS colleagues in underserved communities to study how information systems are built and deployed in conditions of high scarcity. The underlying conservation principles should be abstracted and communicated to practitioners in the developed world.

It is not just about underserved communities. There are also underserved needs, which in our case is IS's role in global climate change and creating sustainable business practices.

We need to change the incentive scheme to reformulate our field from its social science backward-looking perspective to a problem solving future-directed discipline. We need to apply our knowledge to solving problems rather than understanding someone else's solution.

On Developing a Like-Minded Community

Other stakeholders will join us when they perceive the value of our work. They will come to our conferences when they know that they can walk away with practical insights and useful methods for solving their problems. They will read our journals when our articles provide knowledge that contributes to their success. They will seek us out when we can help them to meet their goals.

Education is easy compared to developing a passion-fueled drive to correct inequities. Most of our students live in a middle class, electronic cocoon of computer games, WiFi connections, iPods, cell phones and so forth. We need to disconnect and discombobulate them by injecting them into the reality of an underserved community. Empathy for the less fortunate, too often, can be as ephemeral as the 60 seconds news clip on Darfur or a bombing in Baghdad.

The world is not flat. It is a few well-connected peaks of prosperity separated by large valleys of poverty. We need to find ways of creating long-term social bonds between the students in these disparate societies so that the rich mountain dwellers are motivated to apply their skills to help their less fortunate fellow humans of the impoverished valleys.

Motivation and empathy are not enough. IS needs to rethink its purpose and redesign its incentive systems so that we are realigned to contribute to solving the problems that really matter to everyone.

If you want to start making a difference, then join Don and me in the Global Text Project.

IV. CLOSING THOUGHTS - KEVIN DESOUZA

Where do we go from here? What are we to do? How are we to balance our current goals of getting promotion and tenure with the loftier ideal of making a difference in our world? These are common challenges that we all face. These concerns are even more acute when it comes to a special group of members of our community – the doctoral students and the assistant professors. Having recently made the transition out of doctoral student mode, and now in my second year as an assistant professor, I will share some closing thoughts from the perspective of a rookie. The previous panelist commentaries have been given from the perspective of seasoned veterans of our community. I agree with all that has been said, but would like to expand upon points relevant to the newer entrants into our research community.

It is common for doctoral students, and assistant professors, to be advised and counseled to focus on what matters. This normally comes down to statements such as these:[6]

- "Get that A+ journal paper by year 2 and then make sure you have several more A+ papers in the works by the time you graduate."
- "Only three journals matter – MISQ, ISR, and JMIS – the rest are a waste of time and do not count towards anything!"
- "Why are you wasting your time with this project, will it get into a top-tier journal?"
- "Remember, it is papers that count as there is no other way for the school to judge your quality."
- "Publish or perish…"
- "Do not be too novel in your methodology, the reviewers will not get it, and will reject your paper. Make incremental improvements rather than radical shifts in the literature."

[6] These comments were sent in by doctoral students and assistant professors as email responses to the panel, "Beyond Rigor and Relevance towards Responsibility and Reverberation: Information Systems that Really Matters," which took place at the 26th International Conference on Information Systems (Las Vegas, Nevada). These comments were made in the context of why is it difficult to do research that is *responsible* and develop studies that *reverberate*.

Comments such as these are not only damaging to the growth of our field, but they limit the creativity of our new scholars. Such commentary is why we have a field where there is little attention outside the field to the published research in our top-tier journals. Let us face reality: We have an outdated and flawed reviewing process for fostering the development of new ideas [see Gray et al. 2006]. IS researchers seldom get involved in value-creation and most often spend their efforts reporting on IT artifacts. It never ceases to amaze me how many of our colleagues spend time, years and years, slogging to get that one paper in a so-called "top-tier" journal. They blind themselves to the reality that there are other good journals; at the end of the day, a paper needs to be evaluated by its content, regardless of where it was published. The initial slog that we put doctoral students and assistant professors through can only result in what is perhaps an unintended outcome – drainage of energy, the killing of creativity, and a failure to gain tenure.

While I do agree with my colleagues that the senior leaders within the IS community need to step up and work to change the current incentives of our academy, I am not hopeful that this will happen anytime soon or at the desired pace. I have seen snippets of evidence that things are going to change, most notably the work that Rick and Don are engaged in with the Global Textbook project, the new PhD program at Bentley College and the associated IS research approaches textbook [Galliers, et al. 2007], and the work by Kalle Lyytinen to improve the standing of the *Journal of the Association of Information Systems*, among others. While these are monumental efforts in and of themselves, these are not enough!

So where is the impetus for change going to come from? I honestly believe that a grassroots effort is needed to engage the doctoral students and assistant professors. These individuals represent the future of the field and will be facing the question of addressing, and learning from, the needs of underserved communities for years to come. Here are some action items for consideration.

First, question the assumptions held by senior colleagues. Being naïve and attempting to surface assumptions, albeit in a constructive manner, can be productive and worthwhile. Remember that there are other journals in allied disciplines (from public policy and economics to sociology). These are equally, if not better, positioned than our traditional journals where high impact research can be published. Remember, too, that if we are to be an international community of scholars, we should not downplay the quality of non-U.S. journals, which publish research from different perspectives and traditions.[7] Organize panels, discussions, and even just get your colleagues talking. Get involved in the AIS community, and secure leadership positions. Work towards making changes. Change will not happen unless each of us takes the necessary actionable steps.

Second, work to broaden the metrics used in your departments for promotion and tenure. The field is changing, and departments that do not change will be left behind. Action research, ethnographic studies, and even occasionally serving as a consultant or special adviser to an organization, does have merit. Initially, you will be asked to defend your metrics, and this might be difficult, and sometimes even controversial metrics need to measure *impact*. Impact can be measured based on the stakeholders you are addressing. Our current metrics are not focused in this direction (i.e., most often, we measure impact based on where a paper is published and how other researchers cite it; this does not indicate the impact of the work to the community outside academe). We can make sound advances here (e.g., getting grants funded by government

[7] For example, many non-U.S. journals fail to appear in articles that purport to review the quality of major journals or citation patters, the assumption is often that 'A' journals in IS are by definition US in origin, and all too often, major journals dealing with key aspects of, or approaches to our subject, fail to receive the acclaim they deserve (e.g., *The Information Society* and *Information & Organization*, respectively. In addition, major journals in key regions (e.g., The *Scandinavian Journal of Information Systems* or the German-language, *Wirtschaftsinformatik*) go practically unnoticed in the North American tradition.

agencies, think-tanks, and philanthropic societies can be used to demonstrate practical relevance of research).

Third, take small, yet concrete, steps to address the needs of the underserved communities. As noted by all panelists, one way to do this is to sensitize your students to the issues faced in these areas and how the role of IS cannot be thought of a mere extension of the work in the developed societies. In one of my classes, I gave the students an assignment to understand the role of designing information architectures and information retrieval systems (see sidebar).

> Your team has just been given a grant of $500,000 from the Ministry/Department of Education of a Country X (X can be Somalia, India, Costa Rica, Bangladesh or Sierra Leone, depending on which team you belong to). The grant has been given for building an Educational Information System to benefit children ages 8-16. The educational information system can be anything you decide, from a physical library to an Internet-enabled game that children can play. For this assignment you need to decide how you would go about spending the $500,000 to build the Educational Informational System. You need to clearly articulate the decisions you have made, within your team, why those decisions were deemed important, the alternatives discussed for each decision, and how the appropriate choice was made. For example, if you choose to spend the money to construct a physical library, please explain why this was chosen over deploying a collection of e-books on the Internet. Similarly, if the language chosen for the IS was Hindi, why was this the right language compared to Marathi or Malayalam?
>
> Each team will prepare one report that discusses the proposed Educational Information System, the decision process the team went through, the decisions made, the connections between decisions, and how the Educational Information System will benefit the target audience.

Assignments such as these can be used to make several points and force students to do the blatantly obvious learning – open up a map and see the location of Sierra Leone or Bangladesh. They can learn about the country, the infrastructure, the language, the state of technology and the management practices in the context of IS and making an impact.

The other way is to collaborate with students in the underserved communities. One way of doing this is to simply write to professors who teach in these communities and ask them if you can help by reviewing papers, advising graduate students, etc. I have spent time on this, and I can guarantee you that you will be astonished by the amount you can learn, and the new friends that you will make.

Fourth, seek out volunteers in your midst and give them avenues to channel their energy. I have been working with Rick and Don on the Global Textbook project. More specifically, I am helping Rick with the textbook on Information Systems (see http://globaltext.viawiki.com/Books/Information_Systems). My initial role began as the editor of the chapter on Implementing Information Systems (see http://globaltext.viawiki.com/Books/Information_Systems/Implementing_systems) When I originally received this assignment, I dropped a brief email to the students in our programs and asked for volunteers to help write portions of the chapter. To my surprise, I received responses from well over 50 volunteers, who offered services ranging from writing of text, to incorporation of material they had prepared for other classes, to editing services and the development of graphics. I narrowed down this list to a smaller group and had to sadly turn away some students. The smaller group was comprised of graduate and undergraduate students across a number of programs. Group members organized themselves, collaborated with each other, helped one another out, and wrote the entire chapter. I only had to connect the individuals; the rest was managed by enthusiastic volunteers. As Don has noted, students have taken notice of the need to share their talents and resources. Let us be the ones to provide them with an avenue for this. It does not take much to run such projects, just a little project management.

Fifth, and finally, continue to do what you are already doing – high caliber research, teaching, and service. Meeting the traditional requirements for promotion and tenure is not an option; these are

currently the rules of the game. We can take small steps to change these rules. But, it will only happen if we show that the rules are flawed and incomplete. Therefore, we must build initial credibility by entering the research community and yet also supplementing our careers with meaningful projects. As when building a portfolio, you must balance risky projects with those that have more certain rewards.

It has been my pleasure to chair this panel. I hope this paper has energized you to take the necessary actionable steps to move our field closer to one that is "responsible" to the broader set of stakeholders.

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EDITOR'S NOTE: The following reference list contains the address of World Wide Web pages. Readers, who have the ability to access the Web directly from their computer or are reading the paper on the Web, can gain direct access to these references. Readers are warned, however, that

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