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Mary C. Jones
University of North Texas, jonesm@unt.edu

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Journal Self-Citation XV: The Quest for High Quality Research in IS – Unintended Side Effects

Mary C. Jones

Information Technology & Decision Sciences Department, University of North Texas

jonesm@unt.edu

Abstract:

This paper addresses the research quality produced and published by the IS academic community by providing a lens through which future in depth discussion of the issues raised can be framed. It uses a systems thinking approach to do so, and argues that the discipline may be caught in a vicious cycle of unintended consequences (side effects) that has arisen because of our focus on achieving quality. The paper provides examples of the side effects and posits that we must address these in the short run to increase the quality of both inputs (research conducted and submitted to journals) and outputs (the journals themselves).
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Keywords: research quality, systems thinking, system archetype

I. INTRODUCTION

This paper is motivated by a request to contribute to the *CAIS* special set of papers that follows up the recent discussions on journal self-referencing on AISWorld. Specifically, the editors of a journal want authors to cite a minimum amount of journal articles from their own journal. Presumably, this request was a prerequisite to publication in that journal. The AISWorld discussion focused on whether this request is a common, acceptable, and ethical practice. The gist of that discussion, which gave rise to approximately 125 individual responses, was that while it is not common practice, the policy of requiring/requesting citations is not unheard of either. The consensus was that the policy was inappropriate, and most respondents felt it unethical. When asked to comment further on the subject, my thoughts turned to how best to frame such a discussion. I decided that while this particular policy is worth discussing in the short run, I believe that it is a symptomatic manifestation of a bigger problem that we as a community must deal with effectively for the long term viability of our profession. Therefore, this article addresses the larger picture.

Although this problem may very well include academic researchers in the social sciences in general and researchers in other business disciplines, I limit my thoughts and arguments to academic research in the IS discipline, the field I know best. Furthermore, while these issues may very well be applicable worldwide, I am most familiar with research conducted in the U.S. and published in U.S. based journals. For purposes of this paper, I do not distinguish among epistemologies, ontologies, or theoretical bases for research because the arguments I make are such that they encompass this broad range.

II. CREATION OF A VICIOUS CYCLE

Over the last several years, we have seen an increased focus on both the quality of research submitted to journals (inputs) and on the quality of the journals themselves (outputs). This emphasis can be seen in the importance placed on journal rankings by researchers and universities, the impact factors of journals and the impact of individual articles through the number of citations they receive (e.g., Journal Citation Reports® available in the ISI Web of Knowledge[SM]). Journal rankings serve as surrogates for the quality of individual articles within them. Therefore, these examples all reflect the emphasis on the quality of individual research articles. The requirements for tenure and promotion appear to have increased over the last several years at many schools. Empirical research that indicates that tenure track IS faculty may be at a disadvantage compared to their business school peers in achieving the quality of publications required by many schools for tenure [Valacich et al. 2006]. Emphasizing research quality and improving the quality of publications are valuable, perhaps invaluable, goals. Yet, it appears that the academic discourse and dissemination of knowledge and the information system of which they are a part may be exhibiting unintended consequences (side effects) that are moving the discipline into a vicious cycle of behavior. This paper attempts to expose this vicious cycle through a model of systems thinking. Systems thinking is a holistic view of the world as a complex system in which "everything is connected to everything else" and helps us to better understand the complexity of our environment [Sterman 2000, p. 4].

One way to facilitate a mental model of systems thinking is a system archetype [Senge 1990]. A system archetype is a high level picture of the overall structure of a system that provides a theory of system behavior and tells the story of the system [Wolstenholme 2003; 2004]. The system archetype that informs the argument in this paper is shown in Figure 1.

In this archetype, the IS academic community desires a level of quality (whether explicitly defined or not). Its members feel pressure to attain a certain level of quality. The quality of research submitted for publication (inputs) and the quality of journals (outputs) are two sides of the same coin. In systems thinking terms, they are part of the same system. Just as individual faculty members feel pressure to produce high quality work, editorial board members feel pressure to publish high quality work and for their journal to be recognized as a high quality publication to attract ever higher quality submissions, and ultimately better and better publications. This is the top balancing loop in Figure 1. As researchers and journals attain a high level of desired quality, the pressure to attain is reduced. As the pressure wanes, the level of quality slips, resulting in renewed pressure. That's the balance.
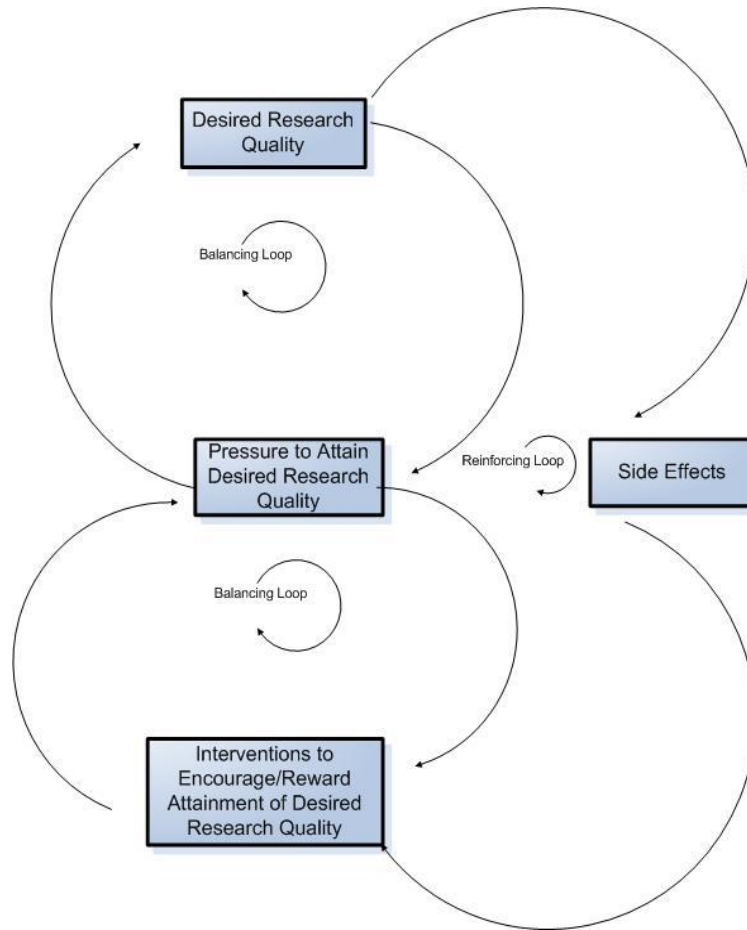
Figure 1. Shifting the Burden: Unintended Side Effects

The bottom balancing loop in Figure 1 illustrates response to the pressure. Interventions are taken to increase quality in response to the pressure felt. Interventions to encourage or reward quality take many forms, including lists of "acceptable" journals that presumably reflect the quality desired by the academic community and/or the school at which the researcher resides. Focus on citations of individual articles and impact factors of journals are other forms of interventions in response to the pressures to increase quality. For the purposes of this paper, we limit ourselves to a few examples rather than trying to be all inclusive.

This archetype is called "shifting the burden" because of the reinforcing loop that ties "desired research quality" directly to "interventions" and bypasses the pressure on attaining the desired quality. It is in this loop that side effects, or unintended consequences, occur. In an effort to reach the desired goals, some researchers and editorial boards may lose sight of the goal of improving the quality of knowledge disseminated and begin to take shortcuts. The goal an untenured faculty member may have, for example, is publishing in an A+ journal because that is the requirement for tenure at his/her school. The publication may become of such paramount importance that the faculty member submits a paper that he/she may know is not really "A+ quality." Anecdotally, this behavior is not restricted to untenured faculty. Some senior faculty perceive an unwritten imperative to publish in A+ journals even when it is not a requirement for tenure, promotion, or merit at their university. These observations are consistent with reports by editors that there are an ever increasing number of submissions to top tier journals. One vicious cycle, therefore, is that increased submissions of unacceptable articles leads to overworked editorial review boards, less time to devote to reviews that could increase the quality of the submissions, and frustration of the researchers, leading to possible shopping of submissions from journal to journal.[1] In a worst-case scenario, the researchers become so caught up in trying to be published in an A+ or A level journal that they lose sight of the research quality goal and become disillusioned with, or incapable of, pursuing research as a means to contributing to knowledge.

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[1] Because space in a journal is limited by budget constraints, the number of articles accepted tends to be approximately fixed from year to year. As a result, when more manuscripts compete for the same space, the acceptance rate drops. This, in turn, tends to make the journal more selective.

Editors, publishers, and editorial boards of journals, particularly those at journals not already considered premier, may also be caught up in a vicious cycle in an effort to increase the visibility of their journals and improve their journal's rankings. A policy of requiring authors to use a minimum number of citations from the journal to which they submit is an example. We do not know the motivations of a particular editorial board enacting this policy. However, the responses on AISWorld to this policy indicate that many, if not most, respondents assumed that the board was attempting to take a shortcut to improve journal reputation by artificially inflating a number that might be used as a publication quality measure. Regardless of whether this is the case, it is reasonable to assume that the journal's management had some reputation target in mind, whether it related to the journal itself or the reputation of the individual research articles. The outcry from the academic community indicates that we do not believe that this approach is a useful way to meet their target. When an editorial board attempts to increase the quality of their publication does not increase the quality of the research articles published, then it can be involved in a vicious cycle.

III. STEPS TOWARD BREAKING THE VICIOUS CYCLE

Guidance toward Improving the Quality of Research (Inputs)

Although addressing the ethics or appropriateness of behaviors by authors and editorial boards may certainly be worthwhile in the short run, it does little to break the cycle. Systems theory tells us that removing or controlling one side effect often gives way to yet another. Thus, the long term solution is not to address each side effect behavior in turn, but rather for the community to return to the question of how best to facilitate the desired quality of research conducted and published. Many senior editors of top tier journals explicitly addressed this issue in editorial comments and in editorial policy for many years. For example, in the mid-1990s, the editor of *MIS Quarterly* published a series of editorial comments that gave explicit guidance on crafting individual pieces of a manuscript [Zmud 1995a; 1995b; 1995c; 1996]. More recently, the editor of *MIS Quarterly* called for a renewed and deliberate emphasis on developmental reviewing [Saunders 2005] and gave authors sound advice on how to manage their research programs such that they maximized, rather than minimized, their overall contributions [Saunders 2006]. The current editor of *MIS Quarterly* has further encouraged focus on the potential contributions of manuscripts and how editorial boards might recognize and develop this potential [Straub 2008a; 2008b]. Others attempted to guide authors in the construction of the underlying theoretical foundations of their papers and improving the rigor and originality of theory in the manuscripts [Webster and Watson 2002; Markus and Saunders 2007; Grover et al., 2008]. Still others wrote articles to help authors improve their understanding of the underlying ontological and epistemological foundations of research and the use of theory in that research [Gallupe 2007; Gregor 2006].

The ICIS 2009 theme, "Doing IT Research that Matters," is an explicit call to focus on research that is timely, relevant, and far reaching. The conference Web site states that, "this conference seeks to highlight IS research that presents new ideas with real potential to have an impact in the real world" [http://www.icis09.org]. ICIS and AMCIS, as well as many other conferences around the world routinely use themes that reflect a focus on the quality of research conducted and how quality relates to the future of the discipline. For example, the theme at AMCIS 2008 was, "Learning from the Past and Charting the Future of the Discipline" [http://www.business.mcmaster.ca/amcis2008]. Providing an exhaustive list is beyond the scope of this article, but these examples illustrate the efforts and lead the interested reader toward guidelines on quality research.

Guidance toward Improving Journal Quality (Outputs)

The community made interesting, and I believe useful, strides toward addressing the quality of publication outlets a few years ago by discussing ways to increase the number of quality outlets that would or could be acceptable for tenure and promotion. One of the original suggestions that arose out of this discussion was to find another journal or journals that could be universally considered A+. However, one of the questions that arose at an ICIS discussion forum that I attended was, once a journal is named, how then we can ensure that it really becomes A+? This issue is not an easy one with which to grapple for a variety of reasons, and some members of the community felt this approach was not the right one. Ultimately, an approach was adopted to develop a basket of several journals that could be argued to university tenure and promotion committees to be superior quality outlets [Senior Scholars' Basket of Journals 2007]. While this proposal generated both positive and negative reactions from the community, it is an example of efforts to focus on increasing the number of quality publication outlets and thereby alleviating some of the pressure on faculty to publish in one or two A+ journals in order to survive. I argue that this proposal is also an example of an effort to break the vicious cycle because it focuses directly on tying the top box in Figure 1 (desired research quality) to the bottom box (interventions) by alleviating the middle box (pressure). This solution was not without controversy as evidenced by resulting discussion on AISWorld, but the solution and the discussions surrounding it both served to help refocus our attention on the goal rather than the side effects.

IV. WHERE DO WE GO FROM HERE: MANAGING THE SIDE EFFECTS

Despite all these efforts, we have not escaped the vicious cycle. If we had, we likely would not be having this discussion[2] in this set of papers in *CAIS*. I argue that we, as a community, cannot leave resolution of this issue to a few editorial boards, researchers, senior scholars, or conference committees. It is our responsibility as academic researchers in the IS community for each and every one of us to take up the task ourselves. What can we do individually and collectively?

My thoughts are intended to serve as a springboard for generating new ideas on the subject and creating further discussion. We, as members of the academic community, are one of the most powerful influences on the academic status of our discipline. Others include university and college administrators, accreditation bodies, industry constituencies, and other stakeholders both in the university and in society. However, the quality of research that we conduct and publish is one area over which we have almost complete control. It is here that we should begin.

In fact, when we perceive that the stakes are high enough, we do act individually and as a community to bring about change. One example of this in recent years is the issue of plagiarism and self-plagiarism. A few years ago, this problem was a much discussed topic within the IS academic community on AISWorld, in journal articles, and at conferences. The AIS Code of Conduct now incorporates the concerns expressed by the academic community to guide ethical behavior [http://home.aisnet.org]. Widespread, diligent, and consistent discussion of a behavior that adversely impacts the academic community can have a significant impact. Therefore, one step we can take to bring our focus back to producing high quality research is discussion in the academic community.

The recent discussions on AISWorld about a particular editorial policy and this resulting set of papers are good examples, but these alone are not enough. Identifying the side effects and finding ways to address them effectively are useful starting points for discussion. This view may at first seem to contradict my earlier argument that we focus on the bigger picture rather than the side effects. However, rather than being contradictory, it is consistent with systems thinking.

We focus on side effects with an eye toward bringing us back to the goal of quality research. For example, if we recognize ourselves in some of the examples of side effects given here, the bigger picture gives us a constructive framework within which to make decisions about our research. A specific example of this is the issue of faculty who routinely submit manuscripts to top journals without having done due diligence to the manuscripts (and just as routinely are rejected). One version of this behavior is a faculty member who starts at the top and works their way down the journal rankings or who uses the A+ or A level journal reviews as input to improve their manuscripts for submission to other journals. Another version, and hopefully less common, is faculty who submit papers to A+ or A journals with the idea of improving the appearance of their vitae on the job market. At first, this seems pretty "cut and dried": they ought not to engage in that behavior. But, is it that clear cut?

Presumably, faculty members do not submit manuscripts simply to further clog the review backlog and increase decision time for manuscripts. Therefore, it is reasonable to assume that there is a disconnect between reality and perceptions for some faculty. Perhaps they do not fully understand the negative consequences to the academic community, or to themselves, that result from their actions. This is not an issue I have seen widely and openly discussed. Perhaps if it were, then a perceptual norm might be established where faculty would, at a minimum, feel it taboo to engage in such behavior. At best, faculty would have a better understanding of where their actions fit in the larger academic community. Rather, the discussions should focus on strengthening constructive guidelines for faculty to use.

Although journal quality and related issues have long been discussed, few of these discussions resulted in tangible or actionable items for faculty to use, other than journal rankings and citation indices. One notable exception is that of the Senior Scholars' Basket [2007] mentioned earlier. Another is the paper by Dennis et al., [2006] which provides empirical evidence that faculty, and promotion and tenure committees can use in discussions with college and university administrators. I found little commentary, however, to guide faculty who serve on editorial boards in addressing the quality of their journals.

Although journal rankings and citation indices are tangible indicators about a journal, I believe the discipline would be well served by discussion of and increased attention to the antecedents of journal quality. We can each think of many, and indeed there have been some valuable discussions about this, including thoughts on the review process [Saunders 2006], manuscript acceptance [Straub 2008a; 2008b] and a discussion about the future of journal

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[2] For the rest of this article, the term 'discussion' is used in its broadest sense to include interactive discussion through panels, workshops, or on-line discussions as well as publications in journals.

management [Gray et al., 2006]. The latter explored some creative, as well as controversial, ideas originally proposed by Rick Watson at ICIS 2004, who was president of the Association for Information Systems (AIS) at the time of the conference. The publication resulted from a panel discussion that took place at ICIS 2005 to "serve as a starting point for discussing how we improve the publication process in our field," [Gray et al., 2006 p. 276]. The reason I use this example is not to advocate, one way or the other, the issues raised in that particular discussion. Rather, I use it to illustrate an example of the type of discussions that, if held routinely, might serve to enhance the quality of our publications while circumventing some of the side effects from journals gaming the system to garner recognition.

Regardless of the type or frequency of discussions, the nature of the research process and the academic community is such that there will likely not be full agreement on many of the issues. However, continually raising issues for examination keeps us focused on improving the quality of our research. With the continual emphasis placed on faculty to publish and publish, the issues surrounding research quality are not likely to go away any time soon. As the Gray et al., panel [2006 p. 274] put it, "journals are the lifeblood of all academic professions, including information systems."

If Figure 1 shows unhealthy behavior of the negative side effects, what would an archetype of healthy behavior look like? One possibility is shown in Figure 2. The figure illustrates a classic *Limits To Growth* structure that occurs when trying to balance actual achievements with a desired goal [Senge 1990]. Hence, the behavior is in the form of a balancing loop. We know there will always be a gap because we operate in an environment of human limitations and limited resources. In Figure 2, the academic community attempts to achieve desired research quality through various interventions. The gap between the quality it achieves and what it wants to achieve then drives future interventions. The difference between this archetype and the one in Figure 1 is that the focus shifts to closing the gap between desired and actual quality. Although the pressure to do so underlies the model, in this scenario it does not sidetrack us from the original target. The archetype may seem, at first, intuitive and even tautological, yet it provides a tangible lens through which to view research behavior.
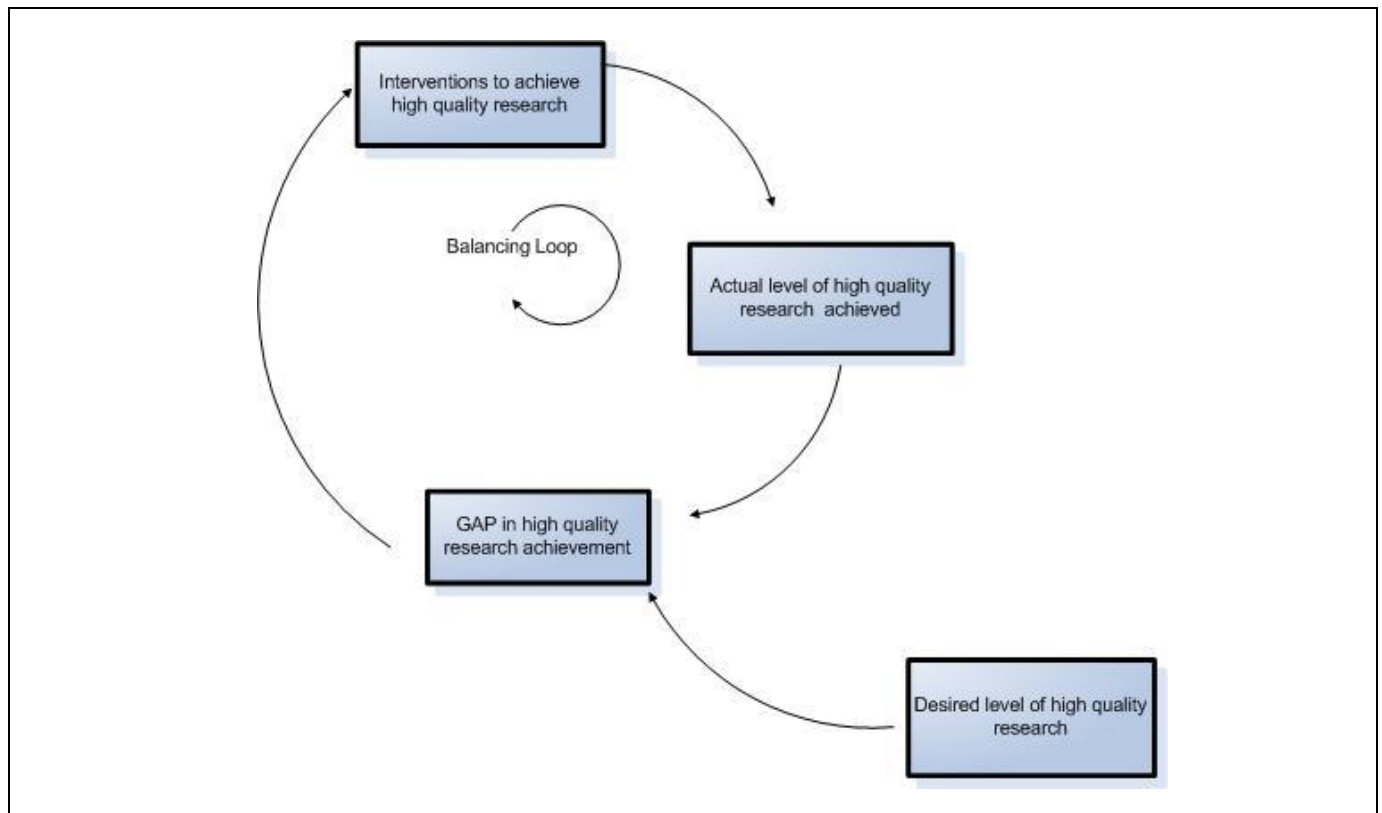
Figure 2: Limits to Growth: Focus on Useful Interventions

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ABOUT THE AUTHOR

Mary C. Jones is professor of information systems and chair of the Information Technology and Decision Sciences Department at the University of North Texas. She received her doctorate from the University of Oklahoma in 1990. Her research interests are in the organizational impacts of emerging and large scale information technologies. Her work appears in numerous journals including *MIS Quarterly, European Journal of Information Systems, Behavioral Science, Decision Support Systems, System Dynamics Review,* and *Information and Management.*