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# IS Has Outgrown the Need for Reference Discipline Theories, or Has It?

*Et si les SI s'étaient émancipées véritablement des théories issues des disciplines de référence?*

*Panel*

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## **Abstract**

*We view the current state of reference discipline theory dominance in the MIS field as constituting a hegemony. This panel discussion will examine why this has potential harm. In counterpoint, we will present the argument that reference discipline theory use should continue. Aside from the fact that reference discipline theory is used, there are benefits derived from it which should be acknowledged and, perhaps such use should be encouraged and broadened. Additionally, we will present perspectives regarding alternatives to reference discipline theory aimed at building and expanding indigenous IS theory.*

**Keywords:** reference discipline theory, theory building, IS research, hegemony, and IS community

## Résumé

Autour de cette table ronde, nous examinerons les raisons pour lesquelles la nécessité de se référer à des théories venant d'autres disciplines est dominante et potentiellement préjudiciable à notre discipline de management des systèmes d'information. Nous présenterons ensuite les contre-arguments qui nous amènent à reconnaître la nécessité d'utiliser les courants théoriques d'autres appartenances disciplinaires. En outre, afin de développer des théories propres à notre discipline nous proposerons des alternatives à cette nécessité.

### Introduction

Reference discipline theory has come to play a powerful, if not dominant, role in the IS research domain. These theories have enjoyed a privileged and prevailing position that constitutes a hegemony over our research practice and thinking. Consider for example the ISWorld theory page. This is an extraordinary gallery of theory choices listing dozens of theories with bibliographies showing how they have been used in IS research. These theories range from economics (transaction cost, agency), to psychology (reasoned action), to computer science (complexity), to communications (diffusion of technology), to sociology (structuration). No other field seems to apply such a super market approach to theory.

Although our ability to assimilate theories from outside the IS domain has been impressive and also useful, has such accumulation of reference discipline theory served the field of IS well in all respects and is it still doing so? Are we too dependent on outside theory? What have been the costs as well as benefits of such heavy reliance on outside theory for the evolution of the IS research? Have reference theories come to enjoy a privileged and dominant status in IS research that constitutes hegemony?

We can see that entire segments of the IS research community are primarily based largely on reference discipline theories. For example, much of the diffusion of technology literature builds upon Rogers' diffusion theory; much of the decision making literature builds on social cognition and cognitive psychology; much of the group support or organizational impact literature builds on structuration theory; and much of the economics of information literature is based on a variety of theories including transaction cost and agency theories. Although theories derived from these disciplines have provided a starting point and a good vocabulary for a significant amount of IS research, has the field perhaps paid a high price in terms of (1) not adequately developing its own *indigenous theory about IT* and (2) becoming fragmented as researchers adhere to their derived traditions rather than integrating across topical areas to create stronger and bolder IS scholarship?

The purpose of the panel is to debate the *positive* and *negative* effects of the reliance on reference disciplines (and our use of associated terminology of referencing outside theory) on the IS research community. Toward that end, we will launch a debate or critique of reference discipline use in IS research. We view the current state of reference discipline theory dominance in the IS field as constituting a hegemony. This panel discussion will examine why this has potential harm. In counterpoint, we will present the argument that reference discipline theory use should continue. Aside from the fact that reference discipline theory is used, there are benefits derived from it which should be acknowledged and, perhaps such use should be encouraged and broadened. These positions represent deliberately conceived end points on a spectrum to highlight the discussion. Following the statement of initial positions, the panel will present an intermediate position that argues for the maximization of value from the adoption of reference discipline theories that has already occurred. Finally an argument is made for indigenous theory in IS that moves us away from an over-reliance on reference discipline theories.

### The Debate

After over 25 years of drawing from reference disciplines, it is useful to raise a very fundamental question:

*Have reference discipline theories truly enhanced our understanding of IS phenomena or have they constrained our format, constructs and innovation in new knowledge?*

The debate will proceed in several parts:

### **Introductions and Format (10 minutes)**

Fred Niederman, the moderator, will discuss the various views commonly held regarding the range of issues addressed by IS research, the range of types of theory that are used to address these varied issues, and how in a broader sense scientific efforts embrace both rational and socially constructed phenomena. While we do not expect a consensus or a single perspective on these issues, it is important to acknowledge their influence and the variety of viewpoints that are held regarding these issues. The moderator will also note that speakers are taking more extreme positions for the purpose of illuminating the full issue.

### ***Part 1: Critique of reference discipline theory (10 minutes)***

Kalle Lyytinen will outline the negative effects that reliance on reference discipline theory has had on the development of the IS field.

Such negative effects include diversion from the development of indigenous theory. It can be argued that the field has not focused closely enough on observing the phenomena involved in interactions of human with computing devices to discover the significant patterns defining such activity. Consequently, the results of research based on reference discipline theories may do more to inform the disciplines in which the theories originated than to create a unified IS field. From a methodological standpoint, the use of reference discipline theories pushed the field toward narrow and precise measurement of equivocal phenomena and an effort at proving causal relationships. While this tactic has shown some consistent findings, these are generally at a broad conceptual level rather than pertaining to the detailed level of phenomena observed in the field where research results may be more readily applied. An unintended consequence of the use of reference discipline theories is a kind of “Balkanized” IS field where scholars are often more attuned to the standards and community of their subfield than to an overarching identity with the phenomena and interests of those specifically targeting IS.

### ***Part 2: Supporting the centrality and continued need for reference discipline theory (10 minutes)***

Varun Grover will outline the positive effects of using reference discipline theory has had on the IS field.

It is difficult to argue that the use of reference discipline theory in the field of IS has not provided some benefits. Knowledge gathered in other disciplines, particularly communications and management, has provided a context within which IS phenomena can be examined in more detail. The diffusion literature is a good example of this. In some cases the diffusion of IS follows patterns recognizable in the communications literature, and the application of these lessons in the IS arena has allowed both for greater understanding of IS diffusion and the opportunity to add much rich content to those studying diffusion outside of IS. It is clear that reference discipline theories have provided a starting point for examining IS phenomenon. In many cases, observations of behaviors relative to technology are likely to be consistent with other behaviors. Why reinvent the wheel? Moreover, from a pragmatic perspective, use of reference discipline theories allows for the creation of high quality research that is easily recognizable as such by outside stakeholders, such as members of tenure and promotion committees particularly in business schools. In many cases, reference disciplines provide not only detailed theory but organizing lenses such as structuration, the resource based view, and agency concepts that provide a framework for an organized investigation of specifically IS phenomena. Additionally, reference disciplines also facilitate generation of context-specific mid-range IS theories, benchmarking of new theory, and the study of tension between theoretical perspectives to provide a richer understanding of IS phenomena. We shouldn't throw out the baby with the bathwater.

***Part 3: Question and discussion intermission (15 minutes).***

Questions and comments will be entertained for examining the broader group's experience with reference discipline theory. The moderator will poll the attendees regarding their views on the degree to which such a hegemony has been experienced, the degree to which such a hegemony presents a problem for the IS field, and the degree to which some action in regard to changing the balance of sources of IS theory is needed/warranted.

***Part 4: Alternative ways to leverage and expand the value from prior investment in reference discipline theory (10 minutes).***

Carol Saunders will point out how we can take advantage of and use reference discipline theory to continue advancing the IS field going forward.

Given that there has been much IS research based on reference discipline theory, it would be shortsighted and wasteful to ignore it. Aside from continuing to use it for generating particular studies and opening new study areas, there are at least three additional approaches to taking advantage of the developed portfolio of reference discipline theory history. First there is the transformation of reference discipline theory. We see this with TAM (Technology Assimilation Model) originating in part with work by Ajzen and Fishbein but evolving to show differing contingencies where usefulness and ease of use vary in their effects for different groups, situations, and technologies. Second, there are techniques to recognize, cultivate, and accommodate diverse paradigms from other disciplines using such approaches as meta-triangulation and building on paradoxes. Third, we see the addition of new variables thought to better explain how information technologies, individuals, and institutions conjointly impact one another. We have seen this very clearly in the diffusion literature where issues such as voluntariness of use, levels at which decision are made, transitions between diffusion decisions and adoption implementation, have all been extended and enriched by IS research. In essence IS is an interdisciplinary field and building on reference discipline theory is a very strong contribution to the overall compendium of organizational knowledge. Additionally, it is not clear that we in IS have done enough to show where reference discipline theories do not apply. That is, we must move beyond the 'what', 'why', and 'how' typically associated with theories from reference disciplines to the boundaries as established by 'who' 'when' and 'where'. It is important that we enhance our use of reference discipline theory by showing clearly when it does not apply and, therefore, where it has limits in its universality. Finally, we study institutions within the IS discipline that can be leveraged to build upon theories from reference disciplines such as the JAIS Theory Workshop and MISQ Review.

***Part 5: Substitutes for reference discipline theory (10 minutes)***

Shirley Gregor will argue for the abandonment of the reference theory hegemony and in its place the recognition that we have come of age. We should celebrate our own indigenous theories and recognize their distinctive characteristics.

The continued and dominant thinking that IS research must refer to theory from other disciplines or risk being seen as "atheoretical" is seen as wrong and unhelpful and must be discontinued if IS is to take its rightful place as a legitimate academic discipline. The reference-theory hegemony is typified by scholars who consider IS as a branch of other disciplines such as management or uncritically adopt the paradigms of the social or physical sciences as the underlying model for IS.

Examination of our teaching and research in IS shows we have distinct areas of knowledge that lie at the core of our discipline. These knowledge areas include: IS management; IS development; methods of abstraction for representation of information, knowledge and processes; and various application systems. We must bite the bullet and realize that the knowledge we have in these areas is legitimate native-IS theory, albeit some of it of a special type. Principles that should underlie native IS theorizing will be proposed. The argument will be made that IS theories arise from creativity, imagination, repeated problem-solving attempts in the real world and extensions of other native IS theory, not over-reliance on and sometimes rather contrived calls to reference theories.

### **Part 6: Open Discussion (20 minutes)**

The panel will open the issue to the audience and discuss the issue with an emphasis on solutions to move the field forward.

### **Part 7: Summary and Direction (5 minutes)**

Moderator will briefly summarize the debate and issues emergent in the discussion.

## **Panel Biographies**

**Shirley Gregor** is the ANU Endowed Chair in Information Systems at the Australian National University, Canberra. Shirley has a special interest in the philosophy of technology and applied research that is relevant to practice. She has published in journals including *MIS Quarterly*, *Journal of the AIS* and *Communications of the ACM*. She is currently a Senior Editor for *MIS Quarterly*.

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**Varun Grover** is the William S. Lee (Duke Energy) Distinguished Professor of Information Systems at the College of Business & Behavioral Sciences, Clemson University. Varun has published over 160 articles in refereed journals drawing from a number of reference disciplines. Numerous recent articles have ranked him among the top five researchers based on publications in major IS journals over the past decade. He currently serves as Senior Editor of *MIS Quarterly*, *Journal of the AIS* and *Database*.

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**Kalle Lyytinen** is Iris S. Wolstein professor Case Western Reserve University, USA, adjunct professor at University of Jyväskylä, Finland, and visiting professor at University of Loughborough U.K. He serves currently on the editorial boards of several leading information systems and requirements engineering journals including *Journal of AIS* (Editor-in-Chief), *Journal of Strategic Information Systems*, *Information & Organization*, *Requirements Engineering Journal*, *Information Systems Journal*, *Scandinavian Journal of Information Systems*, and *Information Technology and People*, among others. He is AIS fellow (2004), and the former chairperson of IFIP 8.2 and a founding member of SIGSAND. He has published over 180 scientific articles and conference papers and edited or written eleven books.

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**Fred Niederman** is the Shaughnessy Endowed Professor of Management Information Systems at the college of Business, Saint Louis University. Fred has published over 40 articles in refereed journals some drawing from reference disciplines and others using grounded theory and other theory building approaches. He is currently serving as Associate Editor for *Communications of AIS*, *Journal of Global Information Management*, *Human Resource Management*, and *DATABASE*. He has co-edited numerous special issues including for *Communications of ACM*, *Human Resource Management*, *Journal of Global Information Management*, *DATABASE* and *Journal of Database Management*.

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**Carol Stoak Saunders** is Professor of MIS at the University of Central Florida. She was inducted as an AIS Fellow and served as General Conference Chair of ICIS. She also served as Editor-in-Chief of *MIS Quarterly* from 2005-2007. Her research is published in leading MIS and Management journals and draws heavily on theory, including her theories that have been published in *Academy of Management Review*.

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