

Communications of the Association for Information Systems

Volume 12

Article 39

November 2003

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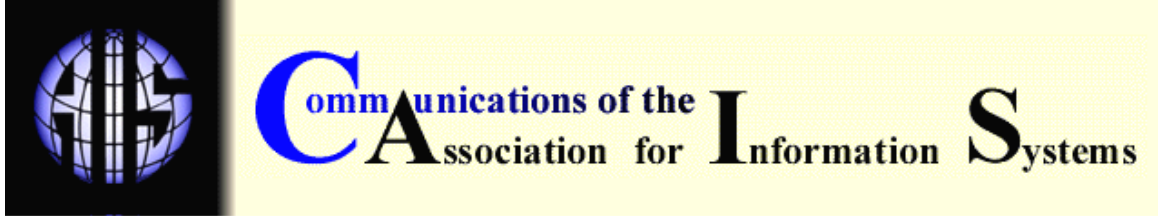
Recommended Citation

El Sawy, Omar A. (2003) "The IS Core IX: The 3 Faces of IS Identity: Connection, Immersion, and Fusion," *Communications of the Association for Information Systems*: Vol. 12 , Article 39.

DOI: 10.17705/1CAIS.01239

Available at: <https://aisel.aisnet.org/cais/vol12/iss1/39>

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THE IS CORE – IX THE 3 FACES OF IS IDENTITY: CONNECTION, IMMERSION, AND FUSION

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ABSTRACT

From the time of the first ICIS conference in 1980, the debate over the identity of IS research continues to flare. Accompanying this debate is an endless quest for “the core” of the IS field and its boundaries, as well as the identification and articulation of its reference disciplines and research methods. This debate most recently crystallized in the dialectic between the Benbasat-Zmud-Weber position around narrowing the field to center around the core of “the IS artifact” --- and the Alter position around broadening the field to be a work-centered systemic interconnected view.

This paper argues that there is nothing inherently wrong with either of these two perspectives, but that they are just alternative models of reality which bring particular central features of phenomena to the foreground and hide other features. The paper further argues that there is at least a third critical perspective that can be equally argued for. It characterizes these three perspectives of IS identity as connection, immersion, and fusion, and articulates their commonalities and distinctions. Like the “Three Faces of Eve” in the classic 1957 Hitchcock movie thriller, each of these faces of IS identity reveals particular aspects of the IS persona.

This paper contends that it may be time for a natural shift of emphasis from the Connection view to the Immersion View to the Fusion view as IT continues to morph and augment its capabilities. The paper explains the differences and similarities among the three views, and articulates each of them. The Fusion view is one that is not yet apparent in the IS field. This paper alerts the IS scholarly community to pay attention to it, and suggests ways of doing that.

Keywords: information systems field, reference disciplines, IS research, modes of inquiry.

I. IDENTITY AND ALTERNATIVE MODELS OF REALITY

When an identity crisis is involved, psychoanalysis is not a bad place to start. In the classic 1957 Alfred Hitchcock movie thriller “The 3 Faces of Eve,” Joanne Woodward plays the part of Eve, the disturbed psychiatric patient with three different personalities and, due to repressed childhood memories, an identity crisis. Each “face” of Eve reveals certain things and hides others. But they are all manifestations of Eve through which we can learn about her persona and how she might

act and think and emote. Each is important, but as the context and environment changes they are not equally useful as she searches for the core features of her persona. All the same, they are each a face of Eve that merits study and attention if we are to increase our understanding of Eve and improve her psyche and behavior.

For the last twenty years the field of IS in scholarly business school circles sporadically exhibited the manifestations of an identity crisis. Like Eve, IS too went through a repressed childhood of sorts with business school deans who almost always favored other off-springs.... Like Eve, it has several faces, each of which sheds light on its nature. None of them is complete, and none of them is real, but they each shed light on some aspects of IS research and hide others. They are just alternative models of reality. And, they should be treated as such.

I was fortunate to be a doctoral student participant in the first doctoral consortium at the first ICIS in 1980 when IS was in its infancy. At the time, even though I was studying at a major business school, I recall that I was relieved to find a dozen or so other doctoral students in the USA who were also studying IS as a major field. Gary Dickson, an early voice in the quest for the definition of IS as a field was the Doctoral Consortium Chairman. The ICIS Conference Proceedings included an article by Dickson, Benbasat, and King [Dickson et. al., 1980] which pointed out the problems with the definition of the identity of IS field. The field's then-evangelist, Peter Keen [Keen, 1980], rallied for a cumulative IS tradition and for the critical need to draw on research paradigms for theory development from the pure reference disciplines (such as psychology, sociology, computer science, and economics...). The IS field had a fire in its belly and the youthful exuberance to push forward with excitement, but also an acknowledgment that there was a lot of work to be done in shaping the IS field --- and that there was much to be learned from other established areas (its elders...).

In the two decades that followed, the IS field made great strides in developing itself, researching IS issues, and becoming more established. More top research journals such as *Information Systems Research* were established. Doctoral students and faculty in IS became a sizeable number. AIS was established and with it two new highly respectable journals. However, in many top business schools, conservative deans and established scholars from other disciplines were constantly questioning the legitimacy of the IS research area. They attributed that to its relative youth, perceived lack of solid theory base, and the ephemeral nature of many of its issues as IT capabilities advanced in leaps and bounds and changed the very assumptions, concepts, and boundaries of what the IS field was about.

The major response by the IS research community was to cling even more to the reference disciplines in their paradigmatic approaches and research methods in a "holier than thou" fashion in order to please its elders. The behavioral and organizational types established their beachhead in the OCIS division of the Academy of Management. The economics types splintered off into the WISE group at ICIS. The hardcore technical types retreated to the comfort of WITS within ICIS. Each group strove to push its own brand of theory development and its view of the boundaries and issues of the IS field. Attempts were made to build broader research paradigms for theory development that were endogenous to the IS field itself. New paradigms such as information systems design theory [Walls et. al, 1992] had little success in being widely adopted. While there was a brief reprieve in the years of the dot-com bubble when suddenly all the reference disciplines were starting to search for e-somethings --- concurrent with all these machinations was the constant search by IS academics for an acceptable identity for IS. The symptoms of a repressed childhood were still being manifested 20 plus years later.

The dialogue around identity management most recently became active in a series of panels at ICIS (Boland et. al, 2002; Karahanna et.al, 2002] and articles in the field's two top research journals *Information Systems Research* and *MIS Quarterly* (Benbasat and Weber, 1996; Robey, 1996; Orlikowski and Iacono, 2001; Benbasat and Zmud, 2003; Weber, 2003]. Alter [2003a] challenged some of the recommendations and provided an alternative view which sparked this exchange in *Communications of the AIS*. This discussion is now crystallized as a dialectic

between the Benbasat-Zmud-Weber position around narrowing the field to center around the core of “the IS artifact” --- and the Alter position around broadening the field to be a work-centered systemic interconnected view. These approaches are presented as two very different positions about the identity and boundaries of the IS field.

Responding to the challenge set forth by the Editor-in-Chief of *Communications of the AIS* to provide discussion and reaction around those two perspectives, this paper tries to accomplish four things:

First, the paper wants to point out that these positions are just alternative models of reality, and they are just that: models of reality. This paper argues that there is nothing inherently wrong with either of these two perspectives, but that they just bring particular central features of phenomena to the foreground and hide other features.

Second, the paper wants to draw attention that there are more perspectives than these two. The paper argues that there is at least a third critical perspective that can be equally argued for. It characterizes these three perspectives of IS identity as *Connection*, *Immersion*, and *Fusion*, and articulates their commonalities and distinctions. Like the “Three Faces of Eve”, each of these faces of IS identity reveals particular aspects of the IS persona.

Third, the paper contends that the distinctions among these views are largely driven by the changing nature of IT capabilities. Over the last two decades IT changed structurally and richly augmented its capabilities and interactions. It “morphed” into something different. At the risk of over-killing metaphors, the IT worm changed into an IT butterfly, and then back into IT DNA. This transformation helps to understand the distinctions that drive the three perspectives of IS identity.

Fourth, the paper argues that it may be time for a natural shift of emphasis from the Connection view to the Immersion View to the Fusion view as IT continues to morph and augment its capabilities. The Fusion view is one that is not yet apparent in the IS field and the paper tries to alert the IS scholarly community to also pay attention to it, and suggests ways of doing that.

II. THE CHANGING NATURE OF IT

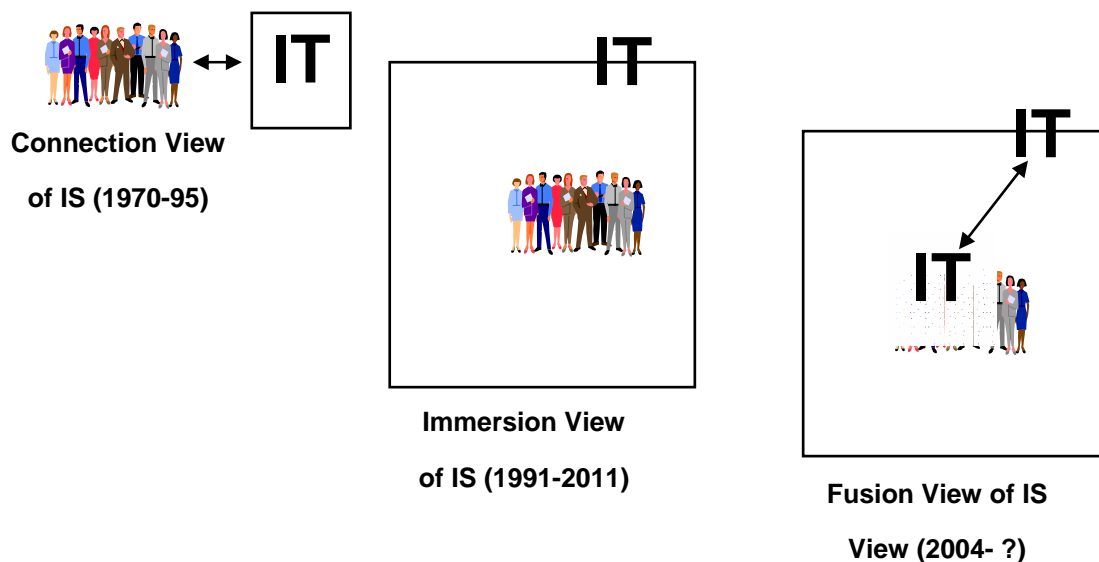


Figure 1: The Changing Nature of IT Induces Different Views of IS Identity

IT IN THE CONNECTION VIEW

The Connection view of IS comes from a model of IT in which IT is used as a tool by people to help them in their work. It is a separable artifact that can be connected to people's work actions and behaviors (Figure 1). It is separable from work and people, and can be pushed aside if necessary, while work might still continue. IT in this view supports the way we work, collaborate, and make decisions as a tool would. It also helps to automate routine repetitive tasks that we no longer need to do manually. It focuses mostly on intra-organizational issues. This view coincides with a set of capabilities for IT that gave us decision support systems, executive information systems, transaction processing systems, office automation systems, and partly computer-supported collaborative work systems. In this view it is typically implied that the interface device used by individuals or groups is the computer terminal or the PC. It is also typically implied that the software application was mainly a spreadsheet-like model, an ERP module, a database query, document processing, or an MIS report. Probably that perspective of IT was shaped and reinforced in the period 1970-1995 when these aspects were salient for an IS view that saw IT mainly as a tool or as a separable artifact.

IT IN THE IMMERSION VIEW

The Immersion view of IS comes from a model in which IT is immersed as part of the business environment (Figure 1) and cannot be separated from work and the systemic properties of inter-organizational relationships. People work inside an IT-intensive environment where work processes and IT are inter-mingled, highly interdependent, and intimately influence one another. To operate effectively in this new IT-intensive business environment, we need to change the way we work as individuals, groups, and enterprises. We cannot push IT aside easily as we are connected to the business environment through it, and need to redesign our business process to take advantage of it. We are much more dependent on IT and immersed within it than in the Connection view of IS. This view accommodates an inter-organizational and an intra-organizational view of IS. This view was reinforced by the network interconnections and the rapid diffusion of the internet in the mid-1990s. It implies that IT includes ubiquitous network connectivity and use of internet browsers and web-enabled applications. It is also typically implied that the software application is a supply chain management application, on-line order management, CRM, knowledge management, e-mail and instant messaging, with much higher interactivity inter-connection, and immersion than the Connection view of IS.

IT IN THE FUSION VIEW

The Fusion view of IS comes from a model in which IT is fused within the business environment in a way that modulates work in hidden ways that changes the boundaries between work and personal life, and that fuses personal and public information (Figure 1). IT is not only immersed, but it is fused with the business environment such that they are indistinguishable to our perception and form a unified fabric. We cannot disentangle them sufficiently to study their interaction in the traditional space-time domain. IT-enabled work is treated as one --- and trying to break it down will just yield finer granularities of IT-enabled work rather than IT and work. This view of IT implies a broadband, always-on network which is accessible from any location through mobile and handheld devices. It implies richer and more intuitive multimedia interfaces and ways to manage personal attention in a torrent of triggers and interruptions. It seeks to define the "TIVO" for professional work where multimedia integration for managing attention becomes possible. It is an environment where an increasing number of personal preferences are recognizable and selectively disclosable. It conjures images of software applications that include personalized knowledge portals, geographic location sensing, embedded software in connected work and household devices, partner relationship management¹, identity management interfaces, shared knowledge creation software, self-correcting business processes, data mining

¹ Partner Relationship Management is a business strategy for developing and improving relations between companies and their suppliers-channel partners. (Source: www.CRM2Day.com)

applications, and 24 x 7 piped infotainment. It is an environment in which the interface and connectivity between physical and electronic processes becomes increasingly seamless, and plug-and-play capabilities between small reusable software components become richer and more adaptive. This Fusion view of IS just starting to appear and as systemic complexity and the quest for real-time management and work process monitoring continue to gain prominence, this view of IS will start to be sensed more vividly and more clearly in a few years. While this view is future-focused, this paper will argue in the next section that there is merit, from a research perspective, in taking such a view into account as it should help uncover phenomena important to understanding IS in this new environment. Furthermore, as is often said regarding early signs of things to come: the future is here, but it is unevenly distributed.

We next compare the three views of IS from a theory development and research perspective.

III. COMPARING THE CONNECTION, IMMERSION, & FUSION VIEWS OF IS IDENTITY FROM A THEORY DEVELOPMENT & RESEARCH PERSPECTIVE

In Section II we identified three different views of IS and showed that the changing nature of IT capabilities induces different views of IS. What does each of these views enable in terms of theory building and testing? What features of phenomena does each view help illuminate? What types of methodologies does each view naturally push us towards?

CONNECTION VIEW OF IS

In the Connection view of IS, IT is a tool and a separable artifact that can be connected to people's work actions and behaviors. This view lends itself well to decomposition and deconstruction of relationships between variables around the use, impacts, or management of IT that are theorized to be central to the phenomena or issue being studied. It identifies the IT artifact as the center of attraction with a nomological net around it [Benbasat and Zmud, 2003; Weber 2003]. In the Connection view, the core of IS research and its field of inquiry revolves around the IT artifact. Inclusion and exclusion arguments are made in relation to the degrees of separation from the IT artifact, and boundaries of legitimacy, identity, and distinction are made around the IT artifact. Great pains are taken to carefully define, theorize around, and dissect the IT artifact. [Orlikowski and Iacono, 2001]. IS design theories [Walls, Widmeyer, and El Sawy, 1992] which prescribe the product and process for different types of information systems would also fall in that camp.

The types of theories that the Connection view would push us towards are those that are constructed around dependent and independent variables with the IT artifact or its proxy effects in its midst. Boxes with lines and arrows are the pictorial representation that best depict the structure of such theories, with cause and effect, moderating and mediating variables, and typically linear relationships. They tend to yield the types of hypotheses that state that "more of this variable will yield or is correlated with more of that variable under such conditions." Thus, we would expect them to stimulate contingency theories, or as Markus and Robey [1988] have called them: variance theories. In variance theories, there is an invariant relationship between cause and effect when the contingency conditions hold. These variance theories are cognitively comfortable to research and practice because they can often be approximated into 2 x 2 matrices with "high-low" boxes that are easy to understand and explain. These types of variance theories naturally push us towards experimental design with treatment and effect in the classical style of its ancestral heroes: Campbell and Stanley. They naturally push us to multivariate field studies and towards the many genres of multivariate linear regression or LISREL models. Economic modeling is likely to be of the genre of the Cobb-Douglas production function or solving of simultaneous equations where that variance structure is dominant. This view of IS has dominated IS research in the last twenty years and yielded a substantial chunk of our current understanding.

IMMERSION VIEW OF IS

In the Immersion view of IS, IT is immersed within the business environment and cannot be separated from work and the systemic properties of inter-organizational relationships. This view has been most vociferously (some would say voraciously) espoused and voiced by Steve Alter in this journal. Alter [2003a] takes great pains to dissect why the IT artifact needs to be sidestepped and replaced by a view in which systems are immersed in organizations. Just in case we missed it this time --- and to remove any remaining doubt, just a month earlier Alter [2003b] goes on to identified and laboriously articulated “18 reasons why IT-reliant systems should replace *the IT Artifact* as the core subject matter of the IS field.” This immersion view of IS includes work context and systemic relationships and mutual interdependencies in a central way. The systems approach for IS has its ancestral roots in Ackoff’s classic 1967 *Management Science* article [Ackoff, 1967] and Mason and Mitroff’s 1973 first conceptualization of MIS [Mason & Mitroff, 1973]² – both of which were heavily influenced by Churchman’s work on modes of inquiry. In this type of view, exclusionary arguments about the boundary limits of the IS field are difficult to make, and the systems are open to the environment. This genre of approach was identified most richly by Kling and Scacchi [1982] as the web of computing, and reinforced by Orlikowski and Iacono [2001] as the ensemble view of IT.

However, there is more to the Immersion view than just context, systemic relationships, and mutual interdependence: it also highlights longitudinal processes and pushes us towards process theories [Markus and Robey, 1988]. Process theories highlight how outcomes develop over time and the process through which that happens. As distinct from variance theories, precursors are necessary but insufficient to produce outcomes. Rather, outcomes are also influenced by knowledge of the occurrence of events over time and knowledge of the process by which the outcomes occur. This makes it a less determinate situation, which requires more intensive study of process and systematic interactions with an environment that may contain random events. Rather than just having theories with variables that have a range of values, process theories are also able to bring to the foreground discrete or discontinuous phenomena – very much in the genre of punctuated equilibria. This type of view of IS pushes us more towards interpretive work [cf. Klein and Myers, 1999]. It is more in the tradition of structuration theorists [Giddens, 1986] than Campbell and Stanley. The structure of such theories cannot be easily depicted pictorially by boxes and arrows, and includes many more circles and loops in the midst of a timeline with critical events depicted. In fact, a static pictorial representation just does not do justice to this type of theory and it requires much more animation. I vividly remember the elaborate and deft hand gestures that Wanda Orlikowski skillfully used at an ICIS session in the 1990s to explain structuration. There was no way that would be as understandable on a static flat piece of paper.










Methodologically, the Immersion view of IS pushes researchers towards intensive field methods [Klein and Myers, 1999] and pattern recognition. Pattern recognition techniques such as factor analysis and cluster analysis are more useful in this view of IS, and the notion of dependent and independent variables is secondary. For modeling and economics types, the systemic relationships leads to consideration of network externalities as a key focus, and the study of process with many intermittent states could best be studied through discrete event simulation methods. While this view of IS as Immersion has been vividly surfaced for the research community for at least fifteen years [Markus and Robey, 1988], it does not yet account for a large chunk of our current understanding and theory building. Part of the difficulty is that it is not as precise and easy to contain “in a box” as the Connection view of IS, and it is often confounded with badly executed case studies that muddy the richness of the generalized understanding that can be gained from such a view. It is also often difficult to represent pictorially or summarize in a 2 x 2 linear matrix. There is much more work to be done both pictorially, structurally, and methodologically to take better advantage of what this view has to offer to IS understanding.

² Although the Mason and Mitroff research framework itself has heavy traces of the Connection view given its date

FUSION VIEW OF IS

In the Fusion view of IS, IT is more than immersed: it is fused within the business environment such that business and IT are indistinguishable to our standard time-space perception and reasoning. We cannot disentangle them sufficiently to study their interaction in the time-space domain, and must seek other ways to uncover how IT modulates work processes, and behaviors and beliefs. Attempts to break down IT and work will just yield finer granularities of the entanglement. This view is perhaps best explained through what might best be called holonomics³ [El Sawy & Khorshid, 1994]. David Bohm's book on wholeness and the implicate order [1980] provides the conceptual basis of holonomics, as do the writings by Briggs and Peat [1984.]

Table 1. Holonomics vs. Classical Systems Theory

HOLONOMICS	CLASSICAL SYSTEMS THEORY
	
<p>  TWO-DOMAIN PROPERTY: The system contains both an explicate order of manifested action & an implicate order of hidden potential that captures the logics of its own change.</p>	<p> The system is expressed only as an explicate order, & there is no provision for hidden potential. It simplifies reality by not catering to the logics of its own change.</p>
<p> ONENESS – WITH - ENVIRONMENT PROPERTY: The system maintains direct coupling between the potential of action & the environmental conditions which trigger the action.</p>	<p> The system is separate from the environment & interacts with it.</p>
<p> WHOLENESS PROPERTY: The system is made up of inseparable sub-totalities & these "parts" subscribe to the whole (i.e. the whole precedes & organizes the parts)</p>	<p> The system has separable self-existent parts, and the interactions of the parts define the whole.</p>

Bohm argues that our model of reality, being made up of separate self-existent parts, is not necessarily an accurate description of reality --- and that physics and natural phenomena suggests that reality might be better viewed as a flow and as an undivided wholeness of flowing movement. Furthermore, this flow includes a more basic and primitive reality that is hidden (the implicate or enfolded order) in addition to the observed separated forms that are manifested to the senses (the explicate or unfolded order). Bohm sees the manifestation of all phenomena in the world as the result of countless enfoldings and unfoldings between the implicate and the explicate order. However, most importantly, the implicate order is the primary one, and the fundamental

³ Holo means whole

laws are between the enfolded structures that interpenetrate each other, rather than between their separated forms that are manifested to our senses. That is the significant issue for theory development:

the laws of the whole are embedded in the implicate domain, rather than the explicate domain.

It is almost like saying that the secret to understanding the behavior and form of Swiss cheese is in the holes, rather than in the cheese. And the holes exist in a different domain than the cheese -- and this domain has different rules and representations. Three essential properties of the holonomic model are summarized in Table 1 and compared to the classical systems model. The properties of the holonomic model provide some clues for the view of IS as Fusion. It suggests an implicate domain model not subject to classical space-time reasoning. The implicate domain is one of potential and possibilities, which can be changed into actions and manifested behaviors through a definable determinate transformation. Domain transformation is common in the mathematical and physical sciences and is used to better understand phenomena. For example, in electrical engineering, to understand the performance of electrical circuits it is common to transform the mathematical equations from a time/space domain representation to a frequency (or pattern) domain representation through a transformation function called a Fourier transform. In the frequency domain, there are no "parts," and boundaries between sub-totalities merge rather than separate. Interconnectedness is always maintained and new types of concepts are appropriate to this domain: energy, entropy, resonance, tuning, harmony, alignment, and attenuation are examples. Thus the types of theories that would evolve from such a view of IS would involve very different types of concepts and variables that could be investigated in the frequency domain. The structure of hypotheses would be different, and clearly the challenge of measurement and operationalization is great. Apart from mathematical domain transformation in modeling research, it is also still unclear how empirical methods would be structured around the measurement of possibilities rather than manifestations. However, understanding the logics of change through implicate domains will yield richer theories with much higher explanatory power in a variety of possible instantiations. The labeling of the topics would also change as we study topics with names like: resonance between users and information system features, achieving negentropy in information system implementation, and using IT-induced enterprise energy levels for competitive advantage. At this point it may sound silly, but it may not be in five years when we articulate such theoretical forms sufficiently and devise appropriate measurement methodologies. This view of IS as Fusion will become increasingly viable at the nature of IT changes as explained in Section II. When the concept of boundaries becomes increasingly insignificant and parts interpenetrate and do not exist outside of each other, this model of reality will present many innovative opportunities for advancing theory and research. It will be yet a different face for IS identity.

IV. CONCLUSIONS

This paper presented three alternative faces for IS identity. Hopefully it conveyed the idea that these faces are just alternative models of reality that accentuate particular features of phenomena and downplay others. None of them is more correct than the other, but each may be suited to different phenomena, state of IT advancement, and environmental context. They each offer utility and explanatory power. Other views also wait to be discovered.

At the risk of being accused of seeking refuge with the feats of another elder field, let me end this paper with an illustration from a field with a longer history and a better track record than IS: organization theory. Perhaps it will best convey my parting message (at least on this round) to this debate among views in the *Communications of AIS*. For the last half century, James G. March the noted organizational theorist developed major directions and paradigms in organizational theory every decade or so (see time-lined selections of his major books in the sidebar).

**SIDEBAR: SELECTED BOOKS BY JAMES G. MARCH
FROM 1958 TO 2003**

James G. March and Herbert A. Simon (1958), *Organizations*. New York: Wiley.

Richard M. Cyert and James G. March (1963), *A Behavioral Theory of the Firm*. Englewood Cliffs, NJ: Prentice-Hall.

Michael D. Cohen, James G. March and Johan P. Olsen (1976), *Ambiguity and Choice in Organizations*. Bergen, Norway: Universitetsforlaget, 1976.

James G. March and Roger Weissinger-Baylon, eds. (1986), *Ambiguity and Command: Organizational Perspectives on Military Decision Making*. Cambridge, MA: Ballinger.

James G. March and Johan P. Olsen (1989) *Rediscovering Institutions: The Organizational Basis of Politics*. New York: Free Press/Macmillan.

James G. March (1995) *Fornuft og Forandring: Ledelse i en Verden Beriget av Uklarhet* (Danish: *Reason and Change: Leadership in a World Enriched by Ambiguity*), selected and translated by Kristian Kreiner and Marianne Risberg. Copenhagen: Samfundslitteratur, 1995.

March, James G. (2003) *Passion & Discipline: Don Quixote's Lessons for Leadership*, Stanford Graduate School of Business & Schecter Films (DVD).

In the late 1950s and by the mid 1960s, March had developed the major thrust of understanding the behavioral theory of the firm [March & Simon, 1958; Cyert & March, 1963]. This view took the economic theory of the firm and progressively relaxed its closedness assumptions and showed how decision making could interact with the uncertainty of the environment. In the mid-1970s, March together with Johan Olsen and Michael Cohen [Cohen, March, & Olsen, 1976] worked on the issue of organizational decision making under ambiguity, and rather than relaxing assumptions progressively – they embraced the ambiguity of environments and tried to look for discernible patterns in the midst of the mess. In one sense, it was almost like they were now approaching the issue from the opposite end and it was a very different view. In the early 1980s when March was my dissertation advisor I confirmed my perception of that with him: they did come at it from opposite ends of the spectrum. When I asked him why, he responded that the environment had changed such that the ambiguity view made sense, and that in any case each view highlighted different aspects. As I observed March's directions in the late 1980s and 1990s and the broad paradigms that he traveled in, it appeared to me that he was now examining the political institution view of organizations and subtleties of leadership, managerial, and personal roles [March & Olsen, 1989; March 1995]. Even as I look at his most recent ideas on leadership documented in an engaging scholarly film, [March, 2003] he emphasizes concepts such as commitment and identity that fuse professional and personal lives in the context of organizations.

If I think of these three major views of organizations in the last 45 years, they seem to follow a similar progression that is parallel to the Connection, Immersion, and Fusion view of IS conceived by the IS community. In the case of organizational theory, it was the change in the ambiguity and complexity of the context and environment that triggered the progression. In the case of IS it may be the development of the capabilities of IT and its intertwining and shaping of a different business environment. In organizational theory, each of these views still sheds insights on current phenomena. In IS, there is no reason not to believe that the same does not hold true. So, let us not get stuck on which view is better and concentrate our energies on what each view can explain and reveal. And of course, continue our endless quest for alternatives models of reality for IS.

After all, even the IT artifact itself is shifting in its pure architectural form. The computing paradigms and architectures shifted from central control around the core (mainframes) to distributed shared coordination (client-server) to organic growth and adaptation (TCP/IP and internet architectures) to molecular on-demand collaboration (services architectures and web

services). Computer science researchers used each of these alternative architectures and models to innovatively advance their theories and practice. Surely, IS researchers can be at least as imaginative in their search for and use of meta-research models of IS.

Editor's Note: This article is the fourth in the series titled *The IS Core*. At the time of publication, the papers in this CAIS series included Articles 31 through 41 and the editorial in Article 42. These articles were motivated by Benbasat and Zmud [2003] in the MIS Quarterly and by Article 30 [Alter 2003] in this journal. The article was received on November 19, 2003 and was published on November 24, 2003.

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Communications of the Association for Information Systems

ISSN: 1529-3181

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