

# Informating in a Demi-global World

David Hakken

Professor of Social Informatics  
School of Informatics  
Indiana University, Bloomington  
1-812-856-1869

dhakken@indiana.edu

## ABSTRACT

What is the best strategy to pursue when introducing computing, to “informate” by creating and sharing as much information as possible, or to “represent” the social processes in question so they can be manipulated and more completely controlled? In what way does the greatly increased scale of many current social processes, referred to as “globalization,” affect the question of basic computing strategy? This paper argues that increasing scale makes the informating strategy even more relevant. This is done by 1) presenting the case for a particular way of characterizing contemporary social formation reproduction, as demi-global; 2), illustrating the value of this characterization through analysis of the current world economic crisis; 3), making the specific case that “informating” is crucial to coping with and resolving this crisis; 4), acknowledging some difficulties that informating typically encounters in the demi-global work; and 5) illustrating why informating should nonetheless demonstrate its superiority.

## Categories and Subject Descriptors

K.6.1 [Management of Computing and Information Systems]: Project and People Management: Strategic Information Systems Planning.

## General Terms

Management.

## Keywords

Computing strategy; organizational informatics; informating; globalization; social informatics.

## 1. INTRODUCTION: What is Computing for, to Informate or to Represent?

Shoshona Zuboff’s 1988 book, *In the Age of the Smart Machine: The Future of Work and Power* [5], identified two dominant computing strategies then being used by corporations. One strategy, which she doesn’t really name but can fairly be called a “representational” approach, reflects traditional Taylorization. In this strategy, work processes are computer mediated in the following fashion: Algorithms are

developed that mimic (represent) work practices, so that these latter can then be reorganized conceptually and rationalized. Computer-controlled machines are developed to carry out or at least control the revised work, resulting often in displacing workers and marginalizing existing worker skills.

Zuboff invented a new term, “informating,” for the other, contrasting strategy. When being used to informate, computers are deployed in existing productive processes to generate as much information about them as possible. This information is then shared very widely, especially with blue-collar workers. While clearly an advocate of informating, Zuboff understood that this approach had important implications for the organization of work. Whereas “representing” marginalizes workers, “informating” tends to marginalize traditional management. It makes little sense to generate more information if it is not shared, especially with those in the best position to act immediately on it, the workers carrying out the process. It also makes no sense to share the information if these individuals don’t have the authority to act quickly on it. If work is reorganized to give workers this authority, there is much less need for the decision-making which has since Taylor been the chief prerogative of line and middle management.

For Zuboff, informating was the strategic approach with the greater potential to be of benefit. To get this benefit, organizations have to expand the discretionary power of those who get the new information, so they could act on it. In contrast, a representational approach reinforces management power and extends the ambit of the hierarchy of machines.

Twenty years later, is there still a case to be made for Zuboff’s preferred strategy? Is “informating” the most a viable approach to conceptualizing what iSchool graduates, or those who study Informatics as a professional field, should be trying to do? (I define the field of “informatics” as the study of automated information and communications technologies (ICTs) in use, and argue that our aim at IU’s professional School of Informatics should be to train and educate informists to solve problems, when it makes sense to do so, using automated ICTs.)

Most of Zuboff’s were “minicomputing” cases, where manufacturers leased computing time on large computers. Still, my current, “post”-PC, cloud computing era students in Organizational Informatics still find the informating/representing

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Conference 07, Month 1-2, 2004, City, State, Country. The reproduction or redistribution of servers or to redistribute to lists, requires prior specific permission and/or a fee.

contrast a useful tool for thinking about the ultimate goals of their projects. These projects require them to identify an organizing context ripe for computerization, figure out what kind of computer mediation makes sense, and conceptualize structures and procedures to identify and help cope with the unanticipated correlates which, I try to convince them, commonly complement computerization. I use Zuboff to get them to consider whether, in the cases they choose, an informing strategy is more likely than the representing approach of standard Computer Science to improve organizational dynamics substantially. I point out that informing is more compatible with the general turn against Taylorization in Organization Studies. I also point out that it helps answer some key organizational informatics questions, like data to gather, which information to create, and how to create useful knowledge out of information glut so commonly associated with computerization.

In this paper, I wish to argue that, even in a world in which many crucial economic, social, and political processes reproduce on a much larger scale, informing still makes strategic sense. I make this argument in response to the call for papers on the implications of “globalization” for the i-School Project in this and previous conferences. The scale increase is in some substantial part made possible by ICT adoption. While I presume that iSchool faculty would agree in the abstract that it is a good idea to come to terms with ways in which today’s world is more “global,” my concern is whether this increase in scale changes what organizations (and thus informists/information scientists) should be trying to do via computing.

Increasing scale makes informing more relevant. I will argue by 1) presenting the case for a particular way of characterizing contemporary social formation reproduction, as demi-global; 2), illustrating the value of this characterization through analysis of the current world economic crisis; 3), making the specific case that “informing” is crucial to coping with and resolving this crisis; 4), acknowledging some difficulties that informing typically encounters in the demi-global work; and 5) illustrating why I am still hopeful that informing will demonstrate its superiority.

## **2. THE DEMI-GLOBAL SCALE OF CONTEMPORARY SOCIAL FORMATION REPRODUCTION**

Still in late November 2008, columnists in the *Financial Times*, the self-consciously global newspaper that I read every day, insist that we have yet to see the worst of the current economic crisis. Having rung crisis bells consistently for a year and a half now, their “dismal science” standard practice that has, unfortunately, proven accurate. Not a prognosticator myself, I wish instead to focus on how the on average increased but very uneven scale of social reproduction, generally mislabeled “globalization,” is central to the continuing crisis.

Instead of being “globalized,” it is more accurate to describe our world as “demi-global.” By this I mean that, while some aspects of current social formation reproduction take place on a greatly expanded scale (e.g., the reproduction of capital, displays of media like film), others continue to reproduce on a much less than global scale (e.g., labor markets, social support and economic regulatory systems). Indeed, some reproductive forms have disappeared (“orphaned” languages). Of direct relevance to the current crisis, for example, is the state of national regulatory structures. While many of these were developed and

strengthened in response to the economic crisis for the moment still called the “Great” Depression, several nations have recently dismantled/marginalized them, while the influence of international coordination structures (International Monetary Fund, World Bank) has also decreased.

In sum, a “demi” global world is one in which some reproductive processes have greatly internationalized, whereas others haven’t or have even been restricted in scale. This unevenness causes problems especially for capital reproduction, an activity increasingly central to general social formation reproduction in the late Twentieth/early Twenty-First Centuries. Largely a fetishized representation of social relationships, capital is greatly dependent upon things like “confidence”—i.e., the shared belief that, if I act as if my capital is not only real but has a certain value, others will act similarly, too. Notional entities like capital are particularly dependent upon, for example, things like strong governance capable of enforcing property rights in them. Notional entities include things like trademarks and (my favorite example) the oxymoronic “intellectual property.” At a minimum, in order for an international market in capital to exist, such enforcers need to be able to enter into and execute reciprocal agreements with other enforcers. Under demi-globalism, this is hard to do.

The fact that social formations have to reproduce themselves under conditions of demi-globalism has greatly exacerbated the current economic crisis. I agree that it seems reasonable to see the crisis as sparked by declines in US property values. These set off crises in real property markets and a number of foreclosures on mortgages, especially the large number of “sub-prime” ones. This in turn lessened US consumer spending. Unfortunately, many mortgages had been securitized; that is, bundled together, chopped up, and sold as bonds and other assets. Several factors, such as lack of regulation of both these markets and the end of the separation of deposit-based from investment banking, mean problems spread quickly through the financial sector.

Where demi-globalism comes in is that many of these securitized assets were purchased by non-US entities and thus amplified the crisis. Had the problems been contained within the US, it is conceivable that securities declining in value might still have found markets and thus devalued in a manner that was comprehensible. However, while the assets were globally owned, in the absence of effective global market regulation, no general market has emerged. I would argue that demi-globalism made such a market unconstructable: Since they couldn’t be sold, these assets couldn’t be valued, nor could values be set on the entities that owned them. Saskia Scholtes and Gillian Tett [3] reported in an early fall 2007 edition of the *FT* on rueful trader complaining that, as the value of assets couldn’t be “marked to market,” they could only be “marked to myth.”

An interesting demi-global torquing of these developments followed from the voluntary decision of several nations and transnational businesses (but not all!) to adopt the new, Basel II standards of international accounting. These require that assets be “marked to market,” an action which, as pointed out above, is impossible if there is no market to which to mark them. As illustrated by Hank Paulson’s abandonment of the efforts to use \$700 billion as originally mooted—i.e., to buy “toxic” assets—there is literally no way to say what these assets are worth. Demi-globalism is a central part of this problem.

Demi-globalism is also central to the adumbrating problems of the whole range of “innovative” investments, based

on deregulation and allowing the slicing and dicing of mortgages (not only sub-prime) and other asset classes as well, like credit-derived obligations (CDOs). Hedging and “naked short selling,” opaque in the absence of global regulation, make things worse.

In sum, in an unregulated demi-global world, there is no way to tell what assets are worth. Capital that is dormant quickly loses value and can only maintain it by being invested, but it can't be invested if its value can't be measured. Capital's ability to reproduce itself is at risk, as thus is a social formation based on its reproduction.

The current crisis illustrates the great likelihood that demi-globalism is unsustainable. Most European governments have responded by arguing for a revitalized set of global governance institutions, e.g., a “Bretton Woods II.” Whether a less demi, fuller globalism can in this way be created and be made effective enough remain open questions. In particular, I doubt that global governance can be achieved in a stable fashion without real global government, not something like the United Nations but something to which nations give over major elements of sovereignty. The other possibility is a retreat to national economies and general abandonment of transnational markets, including in capital. This would radically reduce the scope for innovative financial engineering, the primary site of expanding capital in the post World War II era. Many innovative products (e.g., credit default swaps) are probably doomed anyway.

### **3. WHY “INFORMATING” IS CRUCIAL TO COPING WITH THIS CRISIS**

Whether doomed or not, these products of financial engineering indicate how automated ICTs are partly responsible for the current crisis. Their affordances were central to the creation of the demi-global world. While there was a small international capital market before computing was wide spread (the post World War II market in Euro-dollars), “instantaneous,” “global” trading, electronic funds transfer, construction of complex financial entities, etc., all depend on computers being broadly used. The deployment of complex automatic trading models would also have been impossible without computing.

Indeed, automatic market modeling and trading, as attempts to automate the actions of human stock traders, are a very good example of the representational approach to computing that Zuboff critiqued in her book. The continued use of these models remained at time of writing a major impediment to attaining stock market stability. Americans now agree that totally computerized voting is a bad idea; many states have gone back to partial or even completely paper balloting. Is computerization of major aspects of the economy, especially the financial/capital aspects, a similarly bad idea?

I submit that it is not computerization in general, but the representational approach to computing, that is the primary “contribution” of our field to the current crisis. Zuboff identified an alternative, informing. Indeed, several economists (e.g., recent Nobel laureates Joseph Stiglitz [4] and Paul Krugman [2]) have built substantial parts of their careers on informational critiques of neo-classical economics. They have pointed out, for example, that while neo-classical models of market functioning assume that perfect or near-perfect information is available to all market participants, this in general is far from normally being the case.

Through an informing strategy, computing could conceivably solve the Stiglitz/Krugman informational problem.

However, in the current crisis, no one *can* have knowledge about a key matter, the value of assets, because this is *unknowable* under demi-globalism. If the “unknowability” of value is the center of the current crisis, could an informing approach to ICT use make them knowable?

Yes, but only in the presence of some new public policies. My recent book on *The Knowledge Landscapes of Cyberspace* [1] was prompted by “Knowledge Management Fatigue Syndrome,” the sudden disappearance, around 2001, of talk about KM from the business, popular, and scholarly press. KMFS, I argued, was explicable as a consequence of the literal inability of automated ICTs to manage knowledge. My analysis was that ICTs can't do this as long as one thing of knowledge as a thing rather than as a social process, knowledging. In other words, we can talk of knowledge existing if and only if there is an identifiable group of people willing to act as if “X is known.” Thus, comprehending social dynamics is as central to managing knowledge as is the creation and sharing of representations of that knowledge (e.g., documents, charts, etc.). “Informating,” as Zuboff made clear, is about more than collecting data and communicating the information created by manipulating it; it is also about changing organization so people can discursively interpret the information so they can act on it collaboratively and therefore effectively.

If my analysis is correct, at the center of the current crisis is a knowledging problem: how do we get groups of people to “act as if” the value of a whole range of assets is known and agree on what that value is? As this is not a discovery problem but, in Rumsfeld talk, a “known unknown,” what is needed are new, really global, not demi-global, social conventions, one that allows people to treat X assets as having Y value.

### **4. DIFFICULTIES THAT AN INFORMATING STRATEGY WILL ENCOUNTER**

In the short term, our task as informists re: the world economic crisis is a negative one, to point out all the things we don't know, all the information we don't have, the data that exists about whose relevance we haven't a clue. We information scholars can't solve these data, information, and knowledge problems. We would also do well, I think, to acknowledge our own role in creating the illusion of knowledge as in the structured trading instruments that are still contributing to the unknowability problem. We will, I think, look back on our claims about handling financial complexity as another example, to go along with computerized teaching machines, Artificial Intelligence, knowledge engineering, knowledge integration, of computing overreach.

### **5. WHY I AM NONETHELESS HOPEFUL ABOUT THE EVENTUAL SUCCESS OF THE INFORMATING PROGRAM IN INFORMATICS/INFORMATION SCIENCE.**

We must also work for structures (government as well as governance) that promote acceptable conventions. Indeed, we can point with some pride to our ability to create viable standards, of which the TCP/IP protocol is only one example. We also have experience with creating new forms of organization, like the Internet Society, able to project a standardizing influence over processes of social reproduction that operate on a transnational scale—e.g., the Internet.

Still, our governance “successes” are largely limited to signal engineering. They focus on the medium, not the message and its meaning. Our problem in the crisis—indicative, I would argue, of a world stuck in demi-globalism—is how to help figure out what the signal *means*—a problem of knowledge, not information, science.

Our task, then, is to revitalize the computing enterprise; first, by acknowledging our part in creating the problem, then projecting “informating” as a way to address it. In particular, we can draw on our experience in creating protocols and forms that move closer to truly global reach to suggest ways out of the demi-global *cul de sac* toward real globality. We also would do well to acknowledge that an effort to globalize information science/informatics as technosciences only makes sense as part of a much broader program of political globalization, one that will likely involve government, not just technocratic governance.

Shoshona Zuboff grew skeptical of the ability of corporations to informate. As she says on her current website: “...I realized that I no longer believed in the progressive vision of the corporation”. I-Schools, fortunately, need not accept the

confines of the corporation in order to pursue an informating strategy.

## 6. REFERENCES

- [1] Hakken, David. 2003. *The Knowledge Landscapes of Cyberspace*. Routledge: New York..
- [2] Krugman, Paul. 1980 'Scale economies, product differentiation, and the pattern of trade'. *American Economic Review* 70, pp. 950-59.
- [3] Scholtes, Saskia, and Gillian Tett 2007 “Does it all add up? Worries Grow about the true value of repackaged debt. *Financial Time* June 28, page 7.
- [4] Stiglitz, Joseph 2003 *Globalization and its Discontents*. W.W. Norton: New York.
- [5] Zuboff, Shoshona 1988 *In the Age of the Smart Machine*. Basic Books: New York.