Communication Regimes: A conceptual framework for examining IT and social change in organizations

Eric T. Meyer

School of Library and Information Science, Indiana University, Bloomington, IN. 791 Union Drive, Indianapolis, IN 46202. etmeyer@indiana.edu

This paper defines and extends Kling's concept of a communication regimes by identifying the concept's origins and offering a definition that will allow further research using this framework. The terminology used here originates in political science; in translating these concepts for information science, however, much of the original meaning can be maintained and fruitfully applied. The paper outlines the definition and illustrates it using examples from photojournalism as a communication regime undergoing change. A communication regime is: 1) a loosely coupled social network in which the communication and the work system are highly coupled; 2) a system with a set of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge; 3) a system in which the types of communication are tightly coupled to the production system in which they are embedded; 4) a system with institutions which help to support and to regulate the regime; and 5) a system within which there are conflicts over control, over who enforces standards, over who bears the costs of change and who reaps the benefits of change. This example suggests other areas where a communication regime framework may help understand the relationship between IT and social change.

Introduction

One goal of social informatics research, as identified by the late Rob Kling, is to formulate additional ways of understanding information technology's relationship to social change. This paper will suggest that one possible organizing concept, or conceptual framework, for helping to understand IT and social change is that of communication regimes. The paper will define the concept of communication regimes and apply it to a specific information technology—digital photography—used in a particular setting—photojournalism. Table 1 outlines the definition of a communication regime. A full discussion of each component of this definition is discussed below, following a brief history of the concept.

Table 1: Communication regime defined

A communication regime is…
1. …a loosely coupled social network in which the communication and the work system are highly coupled.
2. …a system with a set of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge.
3. …a system in which the types of communication are tightly coupled to the production system in which they are embedded.
4. …a system with institutions which help to support and to regulate the regime
5. …a system within which there are conflicts over control, over who enforces standards, over who bears the costs of change and who reaps the benefits of change.

Communication regime literature

Communication regimes were introduced to information science only recently by Kling et. al. (Kling, Spector, & Fortuna, 2004), who relied on Hilgartner's (1995) introduction of the concept as it applied to scientific communication. Discussing the changes that occurred as E-biomed was transformed into PubMed Central, Kling et. al. argue that various aspects of the biomedical science journal publication communication regime, including "those regarding gate-keeping, the business model, speed of information sharing, mobilization of authors, and the communication infrastructure" were fundamentally altered. "Examining the transformation of E-biomed to PubMed Central from a 'communication regime' viewpoint, we see that significant changes to the biomedical science

journal communication regime existed in the original proposal" (Kling et al., 2004:140). Also, Kling et. al. argue that their case study illustrates that the transformative effects did not spring autonomously from the technology (in this case, the internet), but were shaped by various groups seeking to serve their own interests. Hilgartner, likewise, saw the transformative effects of biomolecular databases on the communication regimes of biomolecular journal publication. "Clearly, public biomolecular databases have become much more than simply computerized versions of print-based publications: they represent new forms of scientific interaction based on novel and rapidly evolving communication regimes" (Hilgartner, 1995:258). Hilgartner is careful to point out that in his conceptualization, there is not a singular communication regime representing biomolecular publication. Instead, he identifies a variety of related and interconnected communication regimes, including services that abstract from journals and the process of direct submission to journals, which he considers to be niches within a "broader ecology of biomolecular knowledge" which can support a variety of communication regimes.

While Kling and Hilgartner both use the concept of communication regimes to understand scientific communication, this research proposes applying the concept to other areas in general and to digital photography in particular. The case for using the concept in this instance is described below. First, however, it is instructive to look at how the concept of a regime developed, and what elements of regimes may be useful to information science.

Kling's desire to bring the concept of a communication regime into information science was based at least partly on his familiarity with Hilgartner's use of the phrase [1]. Hilgartner, in turn, developed communication regimes "as a sort of grounded, or even rough-and-ready, concept for bringing into focus how patterns of control, power, institutional re-engineering, and inter- and intra-actor relations were being reshaped in both the 'small' and the 'large' changes underway [in science communication]" (Hilgartner, 2004:1). Both Kling and Hilgartner were using an existing concept, that of regimes, and moving it into a communication and information specific context

Of course, the concept is clearly related to Foucault's treatment of "regimes." Foucault rejected 'truth' as an absolute concept, preferring to discuss less "what happened" than "how were people brought to think what happened." He likewise discussed the non-absolute nature of power, which Foucault understood as being dispersed through a network of relationships which make up society and based in discourse.

> ‘Truth’ must be understood as a system of ordered procedures for the production, regulation, distribution, circulation, and operation of statements. ‘Truth’ is linked in a circular relation with systems of power which produce and sustain it, and to the effects of power which it induces and which extends it. A ‘regime’ of truth. (Foucault, 1984:74)

Just as Foucault understood truth and power to be both non-absolute and related to each other through social networks, I am suggesting that this point of view (common among anthropologists, for instance [2]) will help illuminate our understanding of communication with organizations.

The concept of regime itself, of course, is most frequently used in the popular political realm when discussing the regimes of various political leaders [3], but can also mean, more generally “the set of conditions under which a system occurs or is maintained” (OED Online, 1989). It is this more general concept that has been used predominantly in academic political science discourse. Lord discusses how the concept of a regime has developed in the political science literature:

> Regimes are classically defined in International Relations theory as the voluntary convergence of actors on a shared set of norms, meanings, expectations and procedures for communicating, co-ordinating and acting. Self-enforcement, the internationalization of conventions and low level of institutionalization are thus key elements that distinguish regimes from alternative forms of political cohesion. (Lord, 1999:3)

This definition, while intended for the analysis of international political organizations, is general enough to potentially be applicable to other types of organizations. This is even clearer in some of the seminal work in international relations on regime theory [4]. While International Regime Theory was first introduced in 1975 in a special edition of International Organization (Gale, 1998), the most widely accepted definition of an international regime comes from Krasner:

> Regimes can be defined as sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors’ expectations converge...Principles are beliefs of fact, causation, and rectitude. Norms are standards for behavior defined in terms of rights and obligations. Rules are specific prescriptions or proscriptions for action. Decision-making procedures are prevailing practices for making and implementing collective choice. (1982:186)

Regimes, in this conceptualization, are comprised of the "underlying principles of order and meaning that shape the manner of their formation and transformation" (Ruggie, 1982:380). Ruggie argues that these regimes are embedded in a larger social order. By embedded, Ruggie is drawing on Polanyi's argument that in pre-industrial societies, economic behavior was a function of, and contained within, social behavior, and not a separate activity . [5]

One criticism of regime theory is that it emphasizes static descriptions of systems, dealing predominantly with the status quo (Strange, 1982). This criticism should be kept in mind when translating this concept to communication regimes. If indeed we are interested in examining change in communication regimes due to the influence of technology, in this case digital photography, we must be careful not to imply that the previous state of the communication regime was a static and unchanging set of principles, norms, rules and decision-making procedures. Economic, cultural, social, and organizational changes will have happened previously, and changes both large and small will be occurring independently of technological innovation even at the same time as technology-influenced change is occurring. Kling et. al. (2004) and Hilgartner (1995) however, as discussed above, specifically choose to use the concept of communication regimes to illuminate a period of change and demonstrate for us the viability of using the concept to aide in understanding changing, not static, regimes. Also, more recent international relations applications of regime theory are specifically targeted at understanding social change:

> Students of regime theory, interested in employing the regime concept within a critical theoretical framework to reveal the political and economic struggles among state and social forces over a regime's normative content, procedures and compliance mechanisms, will find much fascinating material in the recent literature on global civil society. It is evident that global social change organizations (GSCOs) are engaged in an ongoing struggle to restructure existing international regimes in the interests of peace, human rights, improvements in the status of women, environmental protection, forest conservation and sustainable trade. (Gale, 1998:279)

Also, since the basis of regime theory is in analyzing international relations and the behavior of governments and other international organizations, it is not possible to apply all of the theory's elements directly to smaller organizations in non-governmental settings. But as the preceding quote makes clear, it may be useful to draw on when looking at social change. Modifying this specific formulation to one more useful to understanding information and communication technologies (ICT's) and social change in communication-intensive organizations [6] will be of benefit not only to this research, but also to others researching similar domains

in information science

Communication regime definition and discussion

At the beginning of this section, Table 1 offers a definition of a communication regime. Next, we will examine this definition in more detail. For now let us look at each element of this definition in turn and discuss briefly how each might manifest in (for simplicity's sake) one particular communication regime, photojournalism.

1. A communication regime is a loosely coupled social network in which the communication and the work system are highly coupled.

Professional photojournalists and their news editors are part of a communication regime. The members of this regime are part of a shared social network, as are most people in workplaces, but in addition, the nature of their work is highly coupled to the communication of visual information. In the case of photojournalism, the social network of photojournalists is quite loose – photographers and journalists assigned to presidential campaigns, for instance, travel with candidates for months at a time and develop loose social associations ((Columbia Journalism Review Editors, 2004; Crouse, 1974), and photojournalists have a loose social association with the other people within their news organization (Fahmy & Smith, 2003). However, the communication is central to the work activity of photojournalists, tightly coupling their activity as photographers to their behavior within the work system (Russial & Wanta, 1998).

2. A communication regime is a system with a set of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge.

This element is borrowed directly from Krasner's (1982) definition outlined above. For photojournalists, their principles (beliefs of fact, causation, and rectitude) include the notion that different types of photography are inherently subject to different standards: "The categorization of photo types – spot news, feature, illustration – creates a distinct continuum that can predict when newspaper

editors are more willing to allow the digital manipulation of a photograph. Newspaper editors appear to discriminate between hard news and soft news, and this distinction influences their tolerance toward digital manipulation" (Reaves, 1995:712-713). The issue of digital manipulation as a reflection of a group struggling to define their principles has been one of the primary areas of research for those studying the shift to digital photography (Russial & Wanta, 1998).

Norms (standards for behavior in terms of rights and obligations) are reflected partially in hiring practices: while "the shift from chemical to digital processing has led to a relative lack of concern among photo editors about the need for chemical darkroom skills...new technical skills, such as the use of digital cameras and the web, are growing in importance..." (Russial & Wanta, 1998:593). Rules (specific prescriptions or proscriptions for action) include the codes of ethics for journalists discussed below in element four below. Bisell discusses decision-making procedures (prevailing practices for making and implementing collective choice): while "personal opinion was a part of decision-making [in selecting photographs to run]...other influences on news content were evident. According to the photo editor, the newspaper never rejected photographs from local photographers [regardless of quality]...In this sense the publisher dictated photographic content" (Bissell, 2000:89)

3. A communication regime is a system in which the types of communication are tightly coupled to the production system in which they are embedded.

The practices of creating, selecting, manipulating, and publishing the photographs are part of the broader production system of the news outlet, which may be newspapers, magazines, or websites. Even something mundane like whether a photograph will be reproduced in black and white or in color is tightly coupled to the production system, and more subtle choices such as how many elements can be included in a photograph based on its eventual production size and resolution are part of the communication regime. "The practice of newspaper journalism historically has entailed some level of production responsibilities for news workers...In some current job categories, such as...photographer, news workers have a greater production role than others in the newsroom, in part because of their closer tie to the actual manufacture of the newspaper as a product..." (Russial, 2000:69).

4. A communication regime is a system with institutions which help to support and to regulate the regime.

The institutions that support and regulate the photojournalism regime include the news organizations, the professional associations

for journalists, photojournalists and editors, and the public for whom the news is created. Some of the clearest examples of the reinforcement of group norms by professional organizations can be seen in the various codes of ethics adopted by these organizations. The codes of ethics of The American Society of Media Photographers (1992), the National Press Photographers Association (1991; 2003), and the Society of Professional Journalists (1996) all clearly and specifically say that it is wrong to alter the content of photographs in any way, either in the darkroom or digitally, except in the case of non-news (feature) photographs, and even then the alteration should be clearly disclosed. These clear statements help support the public trust for the communication regime of photojournalism .[7]

5. A communication regime is a system within which there are conflicts over control, over who enforces standards, over who bears the costs of change and who reaps the benefits of change.

When change occurs, it is nearly inconceivable that there will not be conflicts that arise. A number of questions can be asked to begin to understand these conflicts in a system changing from traditional to digital photographic methods. Are existing photographers used, or does the person assigned to taking photographs change? What training and re-training, if any, is required? What new business processes are going to be instituted to deal with new flows of information, in this case photographs? What will happen to the people who used to be responsible for getting rolls of film, processing them, selecting images from proof sheets, enlarging them, and retouching them? If a photojournalist is in a location distant from the paper, such as foreign correspondents, do processes for transmitting photographs change? Will previous gatekeepers (lab managers, photo editors) be bypassed by reporters sending digital images via computer network directly to editors?

Russial (2000) reports that 66% of photo editors (n=214) surveyed felt that the workload of the photo department was “much heavier” or “somewhat heavier” once digital imaging was adopted by a newspaper. In addition, Russial argues that the perceived increase in workload is not dependent on the length of time a newsroom has been using digital imaging, indicating that it may indicate a permanent shift in work responsibilities instead of a temporary period of learning new technology followed by a return to more traditional work patterns. Other findings include factor-analysis results suggesting that photographers feel a loss of control over their images, while desk editors experience a gain in control. Russial’s study, which is highly relevant to this research, is discussed in greater detail below in section 5.3. Fahmy & Smith (2003), on the other hand, argue that the ability to delete photographs on location affords photographers with greater control over their images as they decide what to keep or delete.

The author is currently conducting research using this conceptual framework to examine professional communication regimes (e.g., photojournalists, police forensic photographers, and medical personnel) as opposed to more informal types of photographic communication (e.g., by family photographers, artists, or photobloggers), although the latter may be studied in future extensions of this work. The reason for limiting the research to professional regimes is twofold. First, the definition of communication regimes explained above is most directly applicable in the more formalized settings of professional work than in less formal uses of photography. Second, professionals using digital photography as part of their work have both intensive and extensive involvement with photography as part of their professional communication. Less formal communication regimes, on the other hand, are often made up of people who spend less of their time engaged in digital photography (such as hobbyists) and/or are less dependent on photography for their personal income and for their prestige within the regime.

Conclusion

How applicable is this communication regime framework to areas of interest to information scientists other than digital photography? Particularly when considering the broad topic of the relationship between information technology and social change, a number of areas that may generate potentially fruitful research can be identified. Scholarly communication is an obvious area due to the concept's origins in the study of scholarly communication. Other areas in journalism, including the shift to digital editorial layout that has intensified since the 1980s and the creation of web editions of news beginning in the mid-1990s, offer possibilities. In the entertainment arena, the tensions between movie makers and film distributors on the one hand and theaters on the other over the issue of digital delivery and projection of first-run films is a technological change affecting their communication regime. Other entertainment areas include music recording and the industry's relationship to musicians and music downloaders, and tensions in the radio communication regime that includes the FCC, broadcast radio, and satellite radio. In the legal arena, digital courtrooms and court document management systems are changing how judges, clerks, lawyers and others involved in courtroom procedure communicate in fundamental ways. Digital libraries have changed work rules and communication paths for librarians and their patrons. These are just a few of the areas in which existing communication regimes are undergoing changes as new technologies are influencing or altering how production systems, norms, social relationships, and power structures operate.

Notes

[1]Although Kling only has one published reference to this concept, he and the author engaged in extensive discussions on this concept in the months before his death in 2003. Much of the definition developed in this paper arose from these conversations.Back

[2]See Boyer (2003) for a discussion of the ubiquity of Foucault's concepts among contemporary anthropologists.Back

[3]A recent example widely covered in the news was frequent discussions of *regime change* in regard to the Bush administration's policy toward Iraq in the 2002-2003 run up to the Iraq war. A Lexis search for "regime iraq" for the first six months of 2003, for instance, turns up 632 news items referring to regimes. This also points to one of the difficulties with the popular use of the word regime, which has come more often to be applied to governments which Western nations, and the United States in particular, consider politically undesirable.Back

[4]Habermas (1996) has also discussed regimes in ways that are primarily outside the scope of this paper. Habermas' argument is that regimes regulate power and that regulations are a way for reconciling differences between facts and norms and thus addressing both social situation and aspirations. The extent to which there is "agreement between words and deeds may be the yardstick for a regime's legitimacy" (Habermas, 1996:150). For the purposes of this research, Habermas' work has limited applicability because it tends to focus on macro settings. However, it will be useful to keep in mind the notion of legitimacy, and attempt to look for evidence of legitimate regulation in terms of the day to day practices of organizations.Back

[5]Polanyi also argued that even with the onset of a separate "economy" in industrial societies, there was still not a detachment between the social and the economic, just a reversal of the relative importance of each: now the social relations became embedded within the economic system as it assumes primacy (Block, 2001). This idea that the social and the economic are tightly coupled has clear ties to social informatics.Back

[6]It is important to note that communication regimes as conceptualized here are interested in organizational communication at both internal and external levels of analysis. The external aspect of communication regimes is that the organizations that will be discussed are communication-centric organizations: organizations that have a primary purpose of communicating information for external consumption (e.g., news organizations, scholarly publications, etc...). The internal aspect includes the intra-organizational structures, norms, etc... that may be invisible to outside consumers of information, but nevertheless influence the forms that external communications eventually take.Back

[7]This is an example of the day to day legitimate regulation of the regime that helps to unify facts (e.g., photoshopping pictures is easy and can make more compelling pictures) and norms (e.g., photoshopping news images is wrong because it may reduce public trust in photojournalism), as discussed by Habermas (1996).Back

Acknowledgements

Special thanks to Rob Kling, who provided the initial inspiration for this research, and to Howard Rosenbaum, whose guidance made this paper possible.

References

American Society of Media Photographers. (1992). *ASMP members code for ethical, professional business dealings to benefit their clients and the industry*. Retrieved Sept. 26, 2003, from http://www.asmp.org/culture/code.shtml

Bissell, K. L. (2000). A return to 'Mr. Gates': Photography and objectivity. *Newspaper Research Journal, 21*(3), 81-93.

Block, F. (2001). Introduction. In *Polanyi. The Great Transformation: The political and economic origins of our time*. Boston: Beacon Press.

Boyer, D. (2003). The Medium of Foucault in Anthropology. *The minnesota review: a journal of committed writing, 58*, 265-272.

Columbia Journalism Review Editors. (2004). The Boys on the Broken Bus. *Columbia Journalism Review, 43*(3), 8.

Crouse, T. (1974). *Boys on the Bus*; (1st ed.). New York: Random House.

Fahmy, S., & Smith, C. Z. (2003). Photographers Note Digital's Advantages, Disadvantages. *Newspaper Research Journal, 24*(2), 82-95.

Foucault, M. (1984). *Foucault Reader* (P. Rabinow, ed.). New York: Pantheon Books.

Gale, F. (1998). Cave 'cave! Hic dragones': a neo-Gramscian deconstruction and reconstruction of international regime theory. *Review of International Political Economy, 5*(2), 252-283.

Habermas, J. (1996). *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*. Cambridge, MA: MIT Press.

Hilgartner, S. (1995). Biomolecular Databases: New Communication Regimes for Biology? *Science Communication, 17*(2), 240-263.

Hilgartner, S. (2004). Personal communication.

Kling, R., Spector, L., & Fortuna, J. (2004). The Real Stakes of Virtual Publishing: The Transformation of E-Biomed Into PubMed Central. *Journal of the American Society of Information Science & Technology, 55*(2), 127-148.

Krasner, S. D. (1982). Structural causes and regime consequences: regimes as intervening variables. *International*

Organization, 36(2), 185-205.

Lord, C. (1999). *Party Groups in the European Parliament: Rethinking the Role of Transnational Parties in the Democratization of the European Union*. Paper presented at the European Community Studies Association.

National Press Photographers Association. (1991). *Digital Manipulation Code of Ethics: NPPA Statement of Principle*. Retrieved September 29, 2004, from http://www.nppa.org/professional_development/business_practices/digitalethics.html

National Press Photographers Association. (2003). *Code of Ethics*. Retrieved Sept. 26, 2003, from http://www.nppa.org/ethics/default.htm

OED Online. (1989). *Oxford English Dictionary*. Retrieved Sept. 7, 2004

Reaves, S. (1995). The Vulnerable Image: Categories of Photos as Predictor of Digital Manipulation. *Journalism & Mass Communication Quarterly, 72*(3), 706-715.

Ruggie, J. G. (1982). International regimes, transactions and change: embedded liberalism in the postwar economic order. *International Organization, 36*(2), 379-415.

Russial, J. (2000). How digital imaging changes the work of photojournalists. *Newspaper Research Journal, 21*(2), 67-83.

Russial, J., & Wanta, W. (1998). Digital imaging skills and the hiring and training of photojournalists. *Journalism & Mass Communication Quarterly, 75*(3), 593-605.

Society of Professional Journalists. (1996). *SPJ Code of Ethics*. Retrieved September 29, 2004, from http://www.spj.org/ethics_code.asp

Strange, S. (1982). Cave! hic dragones: a critique of regime analysis. *International Organization, 36*(2), 479-496.