

**THE ROLE OF COLLABORATION
IN THE MARKETPLACE OF IDEAS** :

**Information Management Challenges
in a Technological World**

by

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**I began more and more to think
of communications as one big
set of things.**

Jerome Wiesner, former President of MIT

The convergence of telecommunication technologies requires that we, as media professionals, seek new information-management tools as change occurs. This paper urges that we institutionalize **collaboration** as our conceptual window: by developing this new awareness and competence we can use technologies to assist our teaching and research tasks in contributing to the marketplace of ideas.

Several aspects of the topic will be considered:

- .. some contours of today's technological terrain;
- .. conceptualizing collaboration generally and specifically; and
- .. information-management tools for our collaborative tasks.

Present Technological Terrain

As I have tried to comprehend and manage (and teach) "new technologies" -- or information technologies -- I have developed a "management system" of my own (see Figure 1). It has been interesting, over the past decade for example, to see changing emphases in our teaching and among consumers in these varied information technologies.

It has always seemed necessary to me to divide up the components or roles of the technologies. Some are obviously storage technologies and some involve distribution. In fact, most of our journalism and mass communication education has focused on only a few of the components: film, audio and video tapes/cassettes (storage technologies); and broadcast radio and TV and cable (distribution technologies).

New types of technologies have emerged in each of these areas. Newer **storage** tools include computer/software, telephone answering systems, videodiscs and CD-ROM, for example. Newer **distribution** technologies include microwave improvements, satellites, and technologies such as paging and cellular telephony.

Our conceptual analysis and management of the current terrain is enriched, I think, if we pay more attention than we have in the past to both design technologies and interactive technologies.

As Figure 1 indicates, the design and development of content to be stored and distributed is a technology all its own. (I suppose most of us call this "writing").

And then there is **interactivity**. This category actually involves or integrates all of the other groups -- design, storage, and distribution. As these technologies converge we have our current "brave new world that has such creatures in it" -- video stores (allowing us to interact with program choice more vigorously), conferencing, varied computer-based interactive systems, off-site audio-video feeds (which permit the aggressive interactivity of the Ted Koppel Nightline program), and on and on. Another way of viewing the telecommunications terrain is the diagram developed by Nicholas Negroponte and Jerome Wiesner. With this graphic (Figure 2) they convinced many corporations and MIT of the need for their famous Media Lab where they are "inventing the future." (Brand, 1987) The key concept in Negroponte's presentation is what he calls "overlap" or, as Wiesner says, "one big set of things."

Whether you see these components as separate or overlapping, there's no doubt that today's technological terrain is a challenge!

And the convergence or integration of communication and computer technologies is the technological dynamic that is basic to both the terrain and the challenge.

Speaking at the Gannett Center for Media Studies at Columbia University in 1989, Anthony Smith spoke of "new continents of information." He noted that one of our choices is to move away from the "artifact" (writing, TV, cinema) toward "process" and "procedures" -- where flux is the heart of it.

Sherry Turkle, who has been called "the Margaret Mead of the computer," says that what matters most is "the computer culture that you build around those machines." (1986) She argues for an "open" culture -- one that employs what we know about human diversity to encourage people to make the computer their own in their own unique way.

Technological tools challenge humans (and their teachers) to reach for new ideas, for exploratory skills, for higher-order thinking. A tool we need for this task is collaboration.

Institutionalizing Collaboration

The intellectual marketplace has become more of a challenge due to the increasing amounts of information (data) and the complexity of the technological systems for processing the data. When you add the factor of decreasing resources it seems as if the only way to respond to the converging pressures is through fierce competition. And this competitive stance seems ingrained in our culture -- from the frontier to our football games.

Another way to view the situation, however, is that "working smarter, not harder" can often involve working with others. Computer technology itself provides a metaphor for this approach in time sharing, a procedure allowing many people to use computer technology virtually

simultaneously.

Another current metaphor for this situation is the evaporation of the Berlin Wall. A recent Economist cover story asks if we have reached the end of the nation-state. Anthony Smith noted in his Gannett Center commentary that part of the definition of the nation-state is that it has been the source, inspirer and container of information. Now, however, media images override boundaries. Regulatory mechanisms (like parliaments of the nation-state) are no longer key.

Today's global economic challenges -- while making people aware of the need for "competitive advantage" -- also seem to be the direct cause of bold new collaboratives like the European Community. Even a noted authority like Peter Drucker (1989) states that we are in need of new economic theories; the old theories are feeling the weight of increasing complexities, most of them technological. It may be that new theoretical constructs will reflect a more conjoined world.

Technologies seem to be having a decentralizing effect on the bureaucracies of modern culture (the system or "technique" that Jacques Ellul critiqued in his writings). Drucker (1989) also sees a new kind of corporate organization emerging in the next two decades -- one with more horizontal operational structures. Replacing most of the mid-level management will be task-force teams that are fluid and comprised of experts from varied areas of the corporation collaborating on the tasks.

On the factory floor and in major corporate offices the team is already being institutionalized; Fortune magazine, in a cover story (May 7, 1990) said "the (team) phenomenon is spreading. It may be the productivity breakthrough of the 1990s." (p. 4)

The kind of autonomy + task-force team approach described by Drucker could already describe the existence of most university faculty members. Many of our tasks, quite appropriately, involve individual work: reading, research, the manufacturing of ideas and concepts. Collaborative structures exist to some degree also, as we form research teams and write books

together. The challenge is to plug in to technological tools (described more extensively below) that facilitate the interactivity and collaboration that lead to greater productivity. It's no excuse to say we don't have time; the lack of time almost mandates that we become more efficient with the time and resources we do have.

Three different collaborative experiences have directly influenced my own academic development; I cite them simply as practical examples of the varied shapes this can take.

The entire impetus for attending Harvard University to study telecommunications and public policy came from a collaborative experience I had as a television producer and executive. I represented my media agency in a national board formed to allow us to do group buys on programming. As I met with other members of this collaborative in varied locales throughout the country, several of us began to hold our own adjacent brainstorming sessions. We saw new technologies moving in on a field that had been almost exclusively broadcast media and we would go out to dinner ourselves and conceptualize the varied applications of these technologies to learning and other public arenas.

As the three of us interacted I remember suggesting that we somehow rent computers (this was before the PC boom) and for about three months we could interact with each other regularly, even daily, "talking" to one another, reacting to our individual and pooled ideas. Then I would have the computer feed out the concepts, accessing and organizing by means of key words. This construct would permit me to do a book; indeed the computer organizing would almost write the book for us.

Inspired more and more by this "forum" -- which included individuals in Boston, New York, and San Francisco -- I realized that I wanted to go to Cambridge, so my studies at Harvard commenced. The collective idea-exchange established the basis for my intellectual craving for systematic study in telecommunications and public policy.

Now at Syracuse University a different collaborative has been an active part of my research

work at the Newhouse School. People around the world are aware that when the Pan Am Flight 103 airplane exploded over Lockerbie, Scotland, thirty five of our SU students, returning from study in London, lost their very young lives.

Our university has been traumatized by this catastrophe. The Newhouse School lost more students than any other division of the university. Our eight communication students would have graduated this year.

Media swooped down on our campus the evening of the tragedy; as our students reeled from the blow, literally crying in each other's arms at a chapel service, video cameras and microphones seemed harsh intruders. One journalism student said: "If this is the way journalists behave I don't want to enter the field."

Within a month I began to conceptualize a research project that would explore the role of media in disaster reporting, with special emphasis on the Pan Am 103 case. At the Newhouse School we were part of a unique experience and it seemed appropriate that we should place that experience and our communication skills at the service of the field by examining media roles, interacting with media personnel and, eventually, with the families of the Pan Am victims.

From the beginning I saw this as a research collaborative. All Newhouse faculty were invited to meet and discuss various aspects of the task and to see how their own backgrounds and interests and skills could contribute to a faculty team project. As the team began to take shape we had a group that could build upon varied interests. A project team has been meeting regularly for a year and a half and varied research efforts are underway. A partial list includes:

- . the role of public relations practitioners in organizational crises
- . a cognographic perspective of public information needs in crisis events
- . individual differences in response to media attention

- . preparedness of local television and print reporters
- . how survivors see the media
- . public grief and the law of privacy
- . psychic numbing in TV audiences

Most research team members will agree that it's not always easy to keep collaboratives coordinated! This project has attempted to encourage individual initiatives for researchers while using the collaborative "umbrella" structure as a forum for intellectual interaction and as a practical support system.

It's also difficult to keep student teams coordinated in classroom projects, especially in large introductory courses of underclassmen. After trying varied approaches, however, I have worked out a system that permits teams as large as eight to function. (With large classes the teams must be large or too much class time evaporates in class presentations.) Tactical techniques involve dividing up responsibilities: three do the oral presentation, three do written reports for the instructor, one does visuals for the class presentation, and one develops an Executive Summary of the topic for class distribution. A team list (with phone numbers) is supplied for each team, facilitating planning contacts. Other practical problems can be overcome. The benefit is that, even in large classes, students learn to be interdependent and to build on each other's strengths (even as our Pan Am project does).

Collaboration is a strategy. It goes on all around us, our awareness of its productivity is growing, and this fits in with our new awareness of biology as a conceptual model. With its feedback systems biology seems to be replacing the mechanical models we've used in the past from physics.

If collaboration becomes a social habit, a part of our beliefs, attitudes and behaviors then we will, indeed, have institutionalized it.

Many new technology tools and procedures feature feedback systems and are, therefore,

helpful in managing our information processing needs in our technological marketplace of ideas.

Information-Management Tools

Four existing or emerging telecommunication technologies facilitate a "consensual perspective." Others exist but four will be examined briefly here: computer models; message systems; data bases; and hypertext.

The evolving increase in computer memory capacity (and speed) is creating breakthroughs in new-generation computer design. This memory capacity will make sophisticated processes more available to us for our intellectual interaction -- huge data bases and digitized video being just two examples.

Present for over a century has been the possibility for interactivity in our communications technology. The telephone, perhaps the model of an interactive tool, has been around for a long time and consistently undervalued by all of us because we take it so much for granted.

As telephones have become computers (smart) and as messages have become digitized, our interactions are truly exponentially improved. It's easier and there can be more of them.

Computer modeling is one way of processing vast quantities of information. In a study by William Dutton and Kenneth Kraemer entitled Modeling as Negotiating: The Political Dynamics of Computer Models in the Policy Process, (Ablex, 1985) the authors explore the possibility that modeling is helpful in building consensus. It appears that bargaining can focus on the analysis rather than the personalities or their positions if participants are examining the model's assumptions or scenarios. (Policy models include fiscal-impact modeling, and weather, economic, and environmental forecasting, for example.) Computer modeling is clearly a sophisticated consensual analytical tool.

We are hearing more and more about the "forum" aspect of communications theory (Carey)

and computer messaging systems

certainly demonstrate that technological forums are productive (Vallee, 1984). This technology provides a substitute for many face-to-face meetings and allows quick response when emergency changes are required. After Three Mile Island, for example, computer messages were available under headings such as "emergency hotline," "emergency planner information," and "operations and maintenance information," and many others.

Mundane messages are integral to our daily planning and often the message provides greater precision of information, thereby improving decision-making. Time zone differences (and one's differing biorhythms) can be overcome as early risers can commune with night owls. Intensive planning requirements (such as organizing a conference) can be aided by this technology.

The data base is another intriguing technological tool and is creating new electronic research possibilities. It is also changing the face of investigative journalism.

Alfred Glossbrenner (1987) has provided a practical guide to online data bases for personal computer use. Lexus, the legal data base, for example, puts a sophisticated law library online. Nexus provides full-text articles from over 650 sources, divided into categories and listed by subjects.

Data base use is common now in many newsrooms and permits journalists to assess patterns in the data.

In a Conference on Computer-based Education for Mass Communication, held at the Newhouse School at Syracuse University, Eliot Jaspin spoke of the computer as a reporting/analysis tool.

One level of analysis is what Jaspin calls "bean counting" -- just counting the number of times something occurs. The next level is cross indexing -- for example comparing traffic violation data records with the names of those who are school bus drivers in a state. Another level of data base reporting analysis has to do with what Jaspin calls "expert systems."

You take the expertise of the statistician,

the accountant, the political scientist, and you distill it into software which then a reporter can stick in his machine and begin to draw on the knowledge behind it. (Deppa, p. 20)

Obviously manipulating the data provides the key. Jaspin is currently writing a reporter's guide to using government data bases effectively.

In addition to accessing data bases, communication scholars need to create them. An example of this is Comserve, a communication discipline electronic information and conference service providing free research and teaching resources to communication students and faculty around the world. Literature from Comserve states:

Since service began in August 1986, Comserve has been used by more than 11,000 faculty, students, and professionals, representing 24 countries and virtually every major academic institution in North America, Europe, and the Pacific Rim (as well as others in Central and South America and the Mid-East). The number of first time users experimenting with Comserve has doubled each of the past two years.

And, finally, hypercard or hypermedia. In traditional texts, readers access material relatively sequentially. In contrast, Hypertext creates multiple pathways (structures, branches, or alternatives) for readers with different interests, allowing an individual presentation sequence based on individual styles of reading or information needs. A Hypertext System uses nodes for units of text and links for interconnecting the nodes. (Figure 3)

Hypertext allows both autonomy/individualization and collaborative links since hypercard stacks are often exchanged by enthusiastic users.

With increased computer memory, sound and video are added to the text -- emerging as multimedia (a familiar term which now means digitized video images for instant replay, laserdiscs, and sound) all made possible by high-speed computer chips. Manufacturers hope for applications in merchandising, education, and kiosks.

Our marketplace of ideas is more complex as information and machinery keep changing. The pace of change is staggering and this requires new tools on the part of communication professionals; we need all the help we can get. Specific tools include computer modeling, message systems, data bases, and hypercard.

More important than this technology is the institutionalization of collaboration in utilizing the tools in effective information-management ways.

The concept of information sharing is what characterizes the current situation. The digitalization of print, film, video and information technologies makes it more feasible than ever to share information worldwide. That is the most noteworthy trend in the dissemination of information technologies. It's the nature of information as a resource that it's going to be shared. (Bollier, 1989, p. 7)

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