



INTRANET CHALLENGES: ONLINE WORK AND COMMUNICATION

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Synopsis

One reason for having an intranet is that it greatly increases people's access to an organization's information assets. But a more significant aspect of intranets, we argue, is to increase the amount of work and communication which people do online rather than face-to-face. We describe some of the new challenges that people who are working and communicating online, remote from their colleagues, encounter daily. To meet these challenges, people and organizations must develop specific skills, insights and knowledge if they are to operate effectively in the age of intranets.

Introduction

Most of today's interest in intranets surrounds the capabilities of this technology for the widespread internal publishing of rich, well-structured organizational information. For example, research data, product libraries, sales packs, development plans, organization charts, departmental profiles and corporate information and procedures can be published widely and in depth in a range of appropriate and attractive media: text, graphics, images, animation, sound and movies. Intranets make this corporate information available through user-friendly interfaces across a variety of platforms throughout the organization. Surely this is the answer to what people in the late 80's were calling the challenge of informing?

Indeed, intranet technology does offer enormous potential to put the information that people need at their fingertips, and to lighten the load in publishing and maintaining that information. But that is not the point of this paper. Here we present another aspect of intranets. We describe

the way that intranets will affect the way that people communicate and work with each other. To do that, we need to take a brief look at the first-level and second-level effects of communications technology.

First and Second-Level Effects of Communications Technology

Psychologists Lee Sproull and Sara Kiesler wrote about the phenomenon of first-level and second-level effects of communications technology in their 1991 book 'Connections' [1]. Their argument is as follows:

- Inventors always think of the value of communications technology in terms of the first-level effects of efficiency and productivity. Organizations purchase these technologies - for example telephones, email or intranet systems - on the basis of anticipated cost-efficiency.
- However, communications technologies also create second-level effects. These are less to do with efficiency and more to do with changing patterns of interaction, work process and social organization. Sproull and Kiesler give the following examples:
 - Railways didn't only increase the speed of travel between cities as originally intended (first-level effect), they also allowed people to work further from home and led to the development of suburbs (second-level effect).
 - The typewriter was intended to produce letters which looked as though they were printed (first-level effect). The second-level effect was to create a swathe of clerical jobs and the specialization of office work.
 - The telephone was invented as a tool for business and justified as a more efficient telegraph (first-level effect). The second-level social effect has been enormous, creating telephone-based jobs and services, and allowing families and friends to live apart and yet feel close together.

Second-level effects can indeed defeat the intended first-level effect. Neil Postman writes [2] that Gutenberg, the inventor of printing, was a devoted Christian, and thought that the printing press would advance the cause of the Holy Roman See. In fact it brought about a knowledge revolution which destroyed the monopoly of the Church.

Postman also writes that the Benedictine monks who invented the mechanical clock believed it would regularize their seven periods of daily devotion, which it did (first-level effect). But the clock also brought regularity to life outside the monastery. It enabled regular production, regular working hours, and standardized product. Without the clock, capitalism (a second-level effect, and rather a significant one) would have been impossible. So the clock, which was invented by

men who wanted to devote themselves more rigorously to God, ended up as the technology of greatest use to men who wished to devote themselves to money.

Sproull and Kiesler explain that second-level effects occur because the technology changes what people attend to, and how they depend on and relate to other people. They also explain, and we can see from the above examples, that second-level effects are also more significant and long-lasting than first-level effects.

First and Second-Level Effects of Intranets

If we return now to intranets, we observe that the first-level effect of intranets is to enable corporate information to be published more cost-effectively. We argue that the second-level effect of intranets is to lead to new patterns of online communication and the emergence of the online, virtual workplace.

Our argument is reinforced by the personal communication tools (email and web / computer conferencing) now included in web browsers, and by the emergence of the 'network' computers. These technology developments and the phenomenon of second-level effects will accelerate virtual, online working through intranets, both within and between organizations. We can see now the ways in which this is already happening:

- Intranet pages already include email addresses. Knowledge and information are linked to a person, and communication with that person is only a click away.
- People can link intranet pages to web conferences. Online discussions about information are only a click away from the information itself. It's easy for people to communicate around shared data and common tasks and goals.
- Intrapreneurs can create exciting intranet pages fully explaining their proposals, creating interest and finding out who'll sign up. They form their own informal working relationships with distant colleagues which criss-cross departmental boundaries. The ideas are refined online and the work is conducted online.
- Organizations can formally create distributed teams and projects. Intranets mean that distance becomes irrelevant in selecting the right people for the job. Managers are saying 'We have the information and communication tools to get the skills from Europe, America and Asia for this project, and cut down on travel meantime.'
- External links are becoming more common. Partnerships, alliances and virtual organizations are proliferating [3], fueled by the synergy between business opportunity and the availability of rich communication facilities using common protocols across software, platforms and networks.

Intranets, then, display exactly the characteristics needed to create the second-level effect of accelerating online work and communication. They change what people attend to (the intranet, not the physical office). The ready interpersonal communication they enable (through distributed information and exhibition of knowledge, together with 'one click away' communication tools) creates new patterns of relationships within the organization. After corporate networking in the late 1980's, and groupware in the early / mid 1990's, intranets are the third, and on account of the widespread acceptance of the underlying internet protocols, the most decisive technology to fuel the emergence of the online workplace.

The Intranet Challenge - Competency in Working Online

Given that intranets will accelerate the pace and scope of online work and communication, how will people cope? Will they have the skills to make full and best use of this technology? Intranet publishing has its own skills and challenges, particularly those of presenting continually-accurate information in a well-structured and accessible manner. However, while not underestimating these skills, they are technical in nature and not very different from the well-understood skills of producing a good report or brochure. Publishing on an intranet is not a deeply personal matter of communication, working in new ways, and forming relationships that enable team work.

If, as we predict, a second-level effect of intranets is to accelerate migration to the online workplace, we can also predict very confidently that people will need to be prepared for that online workplace. We know that non face-to-face communication, and online work with remote colleagues, creates completely new challenges, stresses and opportunities for which the Mark I human being is not evolutionarily prepared. Existing communication and work skills, developed over years of face-to-face, collocated work, do not transfer to and sustain high performance online work. In the remainder of the paper we look at some of the challenges of communicating and working online and at strategies to meeting these challenges.

- Historically, the external image of an organization is conveyed to customers and peers by managers formally communicating on heavily-embossed paper. Now almost anyone with an intranet / internet email account can interact with customers and other organizations. This loss of control of image and content can adversely affect the organization's image.

Remedy: Organizations need to internally publish protocols for content and style of external communications. People should develop the skills to create concise, screen-readable email messages that convey what they want to say without ambiguity or abruptness.

- Electronic communication fuels information overload: a primary cause of stress in online workers.

Remedy: Communications protocols, along with filtering devices, are required. For example, people need to appreciate the consequences of overcirculating email. For example, the simple act of indicating message priority in the email header helps people get to the most important communication first.

- Out of sight is too often out of mind. The problem for managers is to motivate people at a distance. The problem for remote staff is to deal with increased autonomy and reduced feedback.

Remedy: Again, by designing group communication processes, online communities can be created that sustain trust and retain personal presence through interaction.

- Working online fosters the feeling of communicating with a computer and not with other human beings. This can lead to a loss of self-regulation - manifested in angry or abusive online communication which is quite unlike how the person would behave face-to-face.

Remedy: Individuals need to understand this phenomenon and guard against it. Managers, colleagues and human resources professionals must learn to police, accommodate, and counsel, as the situation demands, when someone sends inappropriate messages.

- Time, effort and bandwidth are often wasted in online conferences and forums that are stillborn because the organizers overlook basic principles of need and relevance, and are unaware of the special techniques required to sustain online dialog.

Remedy: Experiential knowledge exists for making online conferencing work in a variety of situations. As with all online collaboration and communication, organizations must make a learning investment in order to reap the considerable business value.

- Travel continues to be a major barrier to distributed work. Extensive travel wastes time, consumes money, disrupts families and has only episodic value. How can online teams 'meet' when they are so dramatically dispersed?

Remedy: Intranets and telephones combine to provide enough synchronous and asynchronous bandwidth to replace 80% of organizational travel with results-oriented communication. The knowledge and skills to meet online can be learned by everyone in the organization.

- Online communication can unite the organization, but it can also highlight fundamental cultural differences. Suddenly, people used to working with their countryfolk can find themselves working closely, online, with people from different national cultures. These

are often cultures in which taken-for-granted perceptions of communication, time, power and information are quite different.

Remedy: Training in cross-cultural working is now a necessity, not an option. Today's internal intranets are only a way station to tomorrow's virtual or extended intranets which will link international teams into dynamic work groups. Understanding each other's world view, biases, and preferences will be essential to building trust and shared perceptions, and maintaining the communication that drives the work.

- Technology managers have the problem that when people don't have the skills to work effectively and comfortably online, they tend to blame the technology.

Remedy: Technology managers need evidence (like this paper) to convince human resource professionals of the need for skill development in online work, or to budget to provide it themselves.

Conclusions

The impact of intranets on organizational life goes far beyond the first level of publishing and access to rich, up to date information. The second-level, less predicted, and more significant effect of intranets is to dramatically increase personal and group messaging, and to create a climate in which work moves online ('the network is the workplace') and in which virtual remote working [3] is regarded as an obvious solution for an increasingly global business environment. The issues raised here about competency in working and communicating online are addressed by the WORKING BY WIRE [4] portfolio of skill development modules offered by the authors. By describing some of the issues we all face in working effectively online, we hope to stimulate readers to reflect on their own situations; and to consider the skills, knowledge and insights they need to gain full value from the promise of intranets.

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Drs George Metes and John Gundry, with Paul Bradish, are the authors of *Agile Networking: Competing Through the Internet and Intranets*. This book extends the discussion here about intranets into the context of sustained business competitiveness.

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