

## The Knowledge Notebook

# The Communications Challenge

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The complexity of NASA's projects and the challenge of coordinating and communicating among the centers and organizations that do the work have parallels in enterprises that flourished long before the beginning of the space age. In the late nineteenth century, large-scale organizations began to emerge in the United States, Western Europe, and Japan. Driven by the first and second waves of the industrial revolution, along with concurrent changes in demographics, they were unlike anything seen before. The work of these firms, which produced railroads in the United States, textiles in the United Kingdom, chemicals and steel in Germany, and weaponry in Japan, was far more complex than that of the firms that preceded them. A hallmark of these new organizations was that their work was spread out over space and therefore also over time, since contact and communication were not instantaneous. The thinking that went into running these new-fangled enterprises also began to be divided and distributed. Functions such as operations, finance, and sales migrated to separate departments and the well-known advantages of dividing labor into specialized components made themselves quickly obvious.

In those expansive and functionally divided organizations, discussions and conversations about how work would be done were no longer as direct and "hands-on" as they had been in the smaller, localized organizations of the past. Many of those instructions needed to be communicated through written directives or schematic plans, often unaccompanied by a person who could explicate them and see that they were properly applied.

Of course, large-scale enterprises existed before the later nineteenth century. The East India

Company was already an effective institution by the mid-seventeenth century, running global trade with a mere handful of employees. The Dutch also had similar organizations whose aftereffects are still with us. Even further back, the Roman and Chinese empires were examples and models of extremely large organizations, as was the Roman Catholic Church. But much of the work of those early "global" organizations was fairly routinized and varied only slightly over time. Tasks were well defined, and technology—especially rapidly changing technology—played no significant role in how the work was done. So there was limited need for long-distance communication explaining how to deal with novel and ambiguous situations.

At the end of the nineteenth century, however, we began to see large, dispersed organizations that had to learn to deal with increasing complexity and change. Today complexity and change have become fundamental facts of life. Technologies, both hard and soft, come at us with ever-greater rapidity. Waves of new ideas sweep over organizations like tsunamis, causing disruptions as well as creating opportunities. The remarkable dispersion of cognition that is enabled by communication technologies means that much knowledge is widely shared but also that the knowledge needed to accomplish many tasks is widely scattered. Like fish that never notice the water they swim in, we give little if any thought to this volatile, fragmented environment, but it must be taken into account for us to work and live successfully.

The trends toward complexity, change, and dispersion increase the need for managers at

every level to focus on communication—on how to convey instructions and communications with the greatest possible effectiveness and sticking power. Fundamental to that effectiveness, of course, is the quality of that communication, its relevance to work it is meant to guide. But process matters as much as content. Words alone, especially when conveyed over great distances, are ambiguous and easily distorted. A policy statement, memo, or e-mail offers few if any opportunities for the negotiation of meaning that is so critical to any effective knowledge transfer. Without that negotiation—without, for instance, conversation about what the words imply—what the creator of a document means and what its readers understand are likely to differ dramatically. Communication is not a one-way activity limited to sending a message. It is a social process, a shared refining of ambiguities and distortions and building of context and understanding to create meaning.

This brings us to a few of the lessons that practitioners and researchers have learned about how to structure effective communication. Here they are in a digestible form:

- Believe in “ground truth” and local truth—the experiential knowledge of those who do the daily work. People can tell from a long way off if a communication is dictated from on high with little input from those who have the real know-how about what is being communicated. Lack of trust and an unwarranted belief that all wisdom resides at the top can impede the use of this critical source, especially in hierarchical organizations.
- Think of communication as a process, not a message. Without mechanisms for discussion, debate, and demonstration, even the most carefully crafted instructions will probably be misunderstood or ignored.
- Communicate with stories. They provide the context and emotion that rules cannot convey. We are wired to understand things through narrative. Storytelling is slowly becoming the norm in many organizations. To its

credit, NASA was one of the first organizations to institutionalize this practice.

- Do not be cynical or skeptical. Most employees can recognize good advice and will use it if it helps them do their work. They are, as the social scientists like to say, intendedly rational. That is, they make purposeful choices that they believe will help them achieve their goals. ●

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