

Aware Organizations

A BRAINPARK WHITE PAPER

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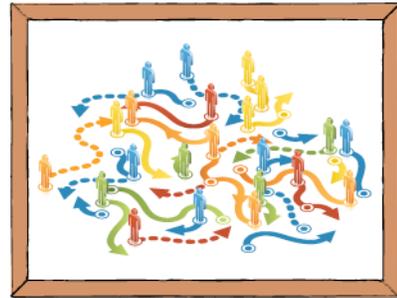
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Nearly 85% of the new jobs created between 1998 and 2006 involved complex “knowledge work”—solving problems, devising strategy, and discerning patterns within information.¹

Making these knowledge workers efficient is the most significant business challenge of the next century. If the twentieth century was shaped by automation and mass production, the twenty-first will be defined by those who can best curate knowledge. To get there, we need to rethink the management approaches—and underlying tools—around which businesses are organized.

There are two big challenges to overcome along the way: context and awareness. Knowledge workers need to be able to grasp what’s going on rapidly if the organization is going to be adaptive and agile; and they’ll need to know what’s going on across geographic and functional boundaries in order to re-use work that’s already been done and avoid duplicating effort.



CONTEXT AND PRODUCTIVITY

Context is the relevant information someone needs in order to make the right decisions in a given situation. In knowledge work, context is everything: the more context someone has, the better and more informed their decisions. Because of this, the time it takes for workers to acquire context directly affects how productive they are.

But workers are changing roles with increasing frequency, making it harder for them to acquire context informally through social relationships and “water cooler” training. Workforces of contractors and subject-matter experts drop in for a brief engagement. Employees work for an employer for only a few years, giving them less time to acquire context. And in changing business climates, workers switch tasks and roles increasingly frequently.

This undermines an organization’s ability to adapt. Companies are measured by their agility—how fast they can bring resources to bear on a new problem, a new client, or a new market. In an agile company, workers need to switch tasks, locations, and colleagues quickly. How quickly a transplanted knowledge worker can gain context on the situation at hand directly impacts organizational agility.

¹ From a study by consulting firm McKinsey & Co.

AWARENESS AND OVERLAP

The second obstacle for knowledge-based businesses is awareness. In most companies, workers aren't aware of what others in the organization are doing and how it relates to them. Most employees become aware of other organizational functions from status meetings or informal channels. With more and more work done in the isolation of a desktop and a keyboard, awareness of what one's peers are doing is fleeting, and it's only going to get worse: Capgemini estimates that over 80 percent of the information a knowledge worker needs to do their job today lies outside the organization. This is a sharp increase from years ago when only 20 percent was external, and workers had more reasons to talk with one another.

A lack of awareness manifests itself in several ways. Consider, for example, an employee looking to book a hotel in a particular city. They might search the web to find a deal that's within the company's spending guidelines, then check with their manager for approval.

On the other hand, if a colleague had stayed at a particular hotel recently—and liked it—that single fact would likely influence the employee's decision far more than any search results could. The time spent searching was wasted because the information was not available.

Other examples abound: Multiple sales teams might toil for months on proposals aimed at the same customer, unaware that they're secretly competing with one another. Administrators might draft policies without knowing that the work has already been done by someone else. Product managers might want to know about a competitor, unaware that the support organization has been flooded by complaints about the competitor recently.

All of these stem from a lack of awareness. Knowledge workers lack a methodology to centrally gather relevant information about the activities of their colleagues.

The wrong tools for the job

At the root of these problems is a simple fact: While knowledge work is vital, we're employing industrial-era management processes to knowledge workers.

MANAGEMENT AND SPAN OF AWARENESS

Most humans can keep track of the relationships between roughly 130 other people—a number known as the Dunbar Limit.² Research suggests that this number can increase somewhat using social networks and tools that help us track people, but the fact remains that there are limits to our awareness. When an organization reaches a certain size, it has to implement management systems to coordinate its activities. Whether because of geographic distribution or size, companies turn to formal structures and

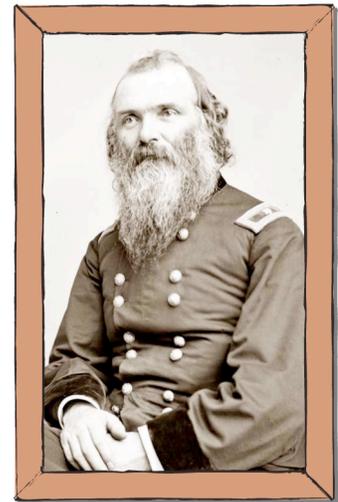
² <http://www.bbsonline.org/documents/a/00/00/05/65/bbs00000565-00/bbs.dunbar.html>

management systems to compensate for their workers' inability to maintain context and awareness across the organization.

Managing organizational sprawl

Formal management structures emerged alongside the large corporations of the industrial revolution. In the 1850s, railroads were growing rapidly. Unfortunately for their investors, while small railroads turned a profit, large ones didn't.

Daniel C. McCallum, the enterprising general superintendent of a large railroad line, noticed this. He divided his railroad into smaller sections, placing a subordinate in charge of each section and giving them specific tasks, such as reporting standardized information back up the chain of command. The result for McCallum's line—and those of other large railroads who copied this approach—was that large ones could thrive.³ McCallum's model was so successful, it was the basis for how corporations were organized as they grew.



Unfortunately, growth through formal structures came at a cost: Workers were boxes in an organizational chart, and creativity was stifled by the rigidity of their tightly-defined roles. The regimented environment made companies that adopted it sluggish, unable to adjust to changing conditions without widespread workforce retraining and top-down effort by managers.

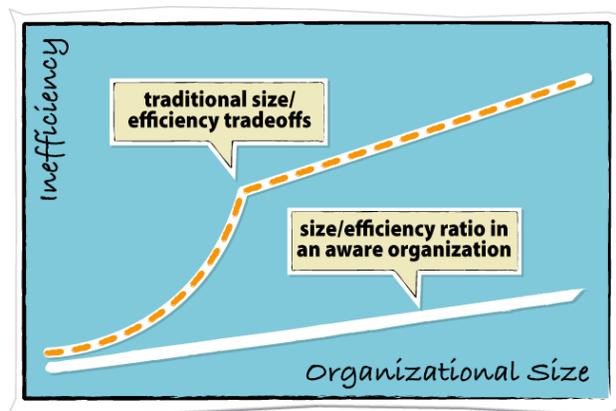
MANAGEMENT IS A CRUTCH

These rigid management models are still with us today. They were created to deal with the two problems we've seen earlier.

- By tightly defining a role, the organization could develop processes that gave each worker the information needed to do her job. Context came from information systems and formal procedures. For example, a financial analyst would have access to the data needed to generate a certain set of monthly reports, as well as to the people responsible for that data.
- By structuring the organization along functional or geographic lines, the hierarchy made each worker aware of those people around him that affected his job. For example, an employee responsible for competitive analysis worked with other competitive analysts—he would know which competitors the company was analyzing, and avoid duplication of effort.

³ Chandler, 1962

Clear structure, roles, and responsibilities eliminated the need for awareness within a large organization: one worker didn't need to know what others were doing in order to add value to the organization. They also reduced the importance of context, since workers were replaceable components in the company as a whole. For large organizations whose task-oriented workers stayed with them for a lifetime, the cost of rigid structures was outweighed by the benefits of being able to grow.



In those organizations, only knowledge work varied. Groups of knowledge workers—such as an executive team—could deal with changing strategies and adapt to new problems because the team was small enough that they were within the Dunbar limit. In other words, only the top of the pyramid was allowed to think.

Today, however, knowledge work is the core business of the organization. That same

adaptability and strategic thinking is essential for other jobs within the organization, particularly within businesses like financial services, consulting, distributed franchises, vertically integrated industries, architecture, engineering, and information technology. Yet companies that rely on a rigid hierarchy suffer from a lack of awareness about what's going on elsewhere in the organization, and an inability to get context on a task quickly.

WHAT'S RELEVANT TO THE SITUATION AT HAND?

Even if there *were* ways to make workers aware of everything going on in an organization, as humans, we couldn't digest it. "The Gen X managers who will be holding all this together will need to be adept at a few things that earlier generations, with their more hierarchical management styles and relative geographical insularity, never really had to learn."⁴

The modern organization generates far more information than its predecessors, and this glut of data gets in the way of context and awareness. Simply showering a worker with information won't help: it has to be *relevant to the task at hand*.

In the early days of the Web, we relied on directories and even printed books to point us to useful destinations. As the web grew, these approaches didn't scale, and we found relevant destinations with algorithms like Google's Pagerank, through friends and co-workers, and with crowdsourcing approaches like Digg and del.icio.us. We sought the wisdom of the crowds—whether by counting their links or by giving them places to vote for what mattered—and the knowledge that mattered floated to the top.

⁴ "When Gen X Runs the Show," by Anne Fisher, *Time Magazine*, Thursday, May. 14, 2009

In doing so, we built the foundations of an attention-driven Web: when all information is available, it's no longer *what* you know, it's whether you know the *right* things in the *right* situations.

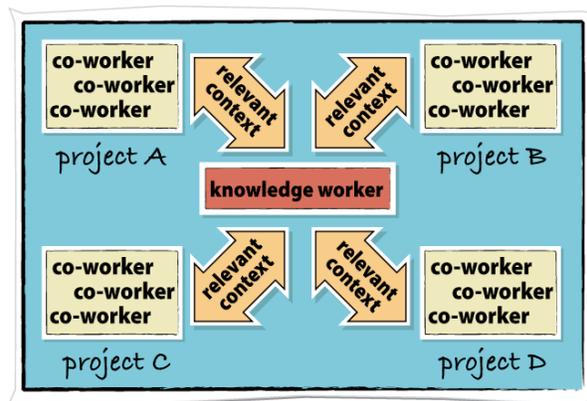
EXTENDING THE LIMITS OF HUMAN AWARENESS

What if we could give knowledge workers context and awareness relevant to their current situation? What if they had access to the clients, colleagues, and content that mattered *right then*? We'd be extending the limits of human awareness, augmenting knowledge workers, and giving them context and awareness without the rigidity of formal hierarchies and processes.

This is what Brainpark does.

Brainpark: The Aware Organization

Brainpark is a radical new approach to management and coordination of knowledge workers. It's software that gives employees relevant context and awareness. It offers the right information at the right time—to make knowledge workers more effective. In doing so, it solves the twin challenges we saw earlier.

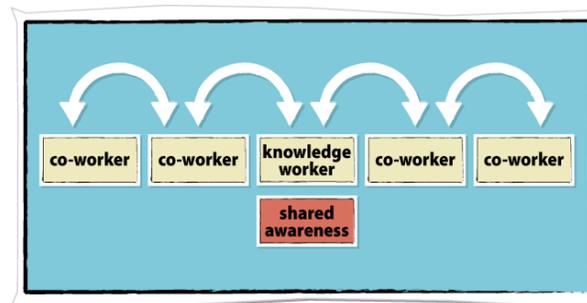


THE CONTEXT TO GET WISE QUICKLY

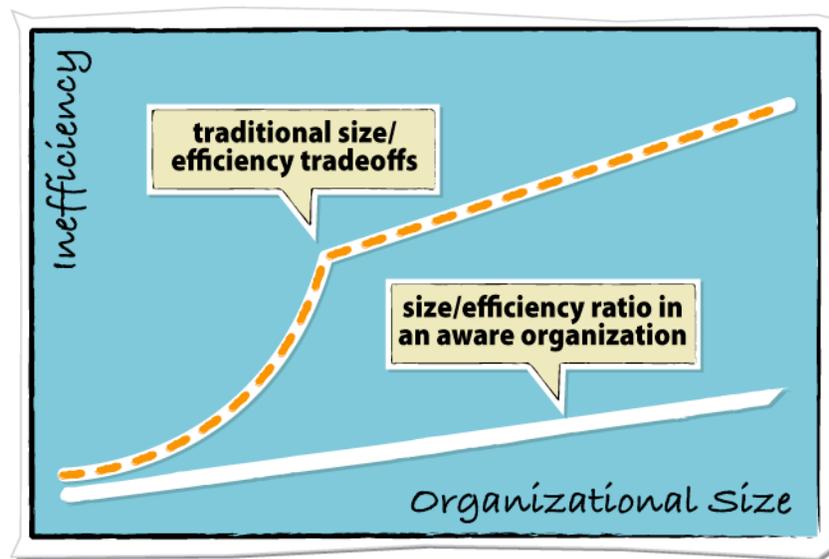
By injecting relevant information into the workflow, Brainpark makes it easier for workers to come up to speed quickly. Whether it's a new client or a new project, employees have the facts and resources they need at their fingertips. Brainpark's patent-pending Task Awareness algorithms provide the relevant facts to a knowledge worker, reducing the time they spend researching and leveraging the existing assets of their organization.

THE AWARENESS TO AVOID OVERLAP

By showing workers what others are doing—and what's been done in the past—Brainpark avoids wasted work. Rather than reinventing something that's already been done, workers find the resources that have already been created. Rather than duplicating effort, workers can find colleagues working on similar projects and pool their resources.



As a result, aware organizations avoid the inherent inefficiencies that plague most companies.



THE BIG SHIFT

The change from industrial-era formalized structures and roles to aware, context-driven knowledge work is the fundamental transformation that business management will undergo in the twenty-first century. It is as disruptive as the change from informally-managed, Dunbar-sized organizations to the rigid span-of-control systems that powered the industrial era. Relevance-based tools that integrate into employees' workflows will make them more productive and more independent while retaining the dependability that companies demand from management systems. The shift affects every part of an organization:

- The **CIO or CTO** of an organization will become increasingly important. Their role will move from the management of systems to the augmentation of employees, and they'll be measured by how much the context, awareness, and task switching of knowledge workers improves.
- The **CFO and investors** will demand increased productivity from workers as a result of such tools. They'll consider how much re-use of existing work takes place, and whether workers can be redeployed quickly to suit changing business priorities.
- Those tasked with specific **projects or programs** in the organization will shift tasks more rapidly, allowing a greater degree of freedom and experimentation with less ramp-up time, shorter release cycles, and faster turnarounds.
- **Security, risk, and compliance professionals** will expect workers to know about the specific rules and regulations surrounding their current task. By surfacing what's relevant, knowledge workers will be better aware of policies, procedures, and legal restrictions, so there will be less room for error—and for excuses.
- **IT teams** will be expected to maintain the flow of awareness and context, deploying systems that can integrate with how workers do their jobs today and leveraging what's already in place—

email, file systems, instant messaging, and so on. Whatever additional knowledge management tools are adopted will have to conform to existing enterprise platforms, rather than the other way around.

The case for aware organizations

A business in which knowledge workers are augmented with awareness and context relevant to the task at hand has tremendous potential benefits. While these will vary with each organization, here are some examples:

- **More productive workers, sooner:** By arming employees with the information they need to do their jobs, they become more productive sooner. This means that newly assigned workers take less time to switch roles, and new hires start producing immediately.

It also removes excuses from employees, making it possible for managers to identify unproductive new hires earlier in their employment with the organization, saving the company hiring and Human Resources headaches down the road.

- **Efficient discovery and re-use:** By putting relevant information at an employee's fingertips, workers will re-use information more, improving coherence within the company and leveraging existing resources rather than wasting time re-inventing the wheel.

What's more, by tracking which documents, people, and processes are most often re-used, the organization can surface best practices and reward top contributors based on the impact of their contributions.

- **Less liability from employee churn:** One of the biggest problems with a knowledge-based business is that the company's assets walk out the door every evening. This is exacerbated by an aging workforce whose understanding of tacit, seldom-documented processes isn't well captured.

As a result, the loss of an employee—because of firing, departure, or retirement—can halt an organization in its tracks. By measuring how people work and identifying relevant content, the company will minimize the liability of worker churn.

- **Reduction of redundant work across large organizations:** In distributed organizations, many workers may be up to the same thing, as they were on McCallum's railroad.

Whether that's bidding on contract, designing artwork, preparing a legal brief, staffing a new position, or hundreds of other tasks that are handled regionally, this leads to inefficiency. Making employees aware of what their peers are up to reduces redundancy and lets workers pool their efforts.

- **Reduction of redundant roles across functional groups:** When companies are vertically integrated, functional groups don't communicate. A toy company, for example, might have manufacturing, distribution, online, and retail divisions. Each might employ legal counsel, graphic designers, and PR specialists—all of whom are idle part of the time.

Providing lawyers immediate context makes it easier for a lawyer in one division to help out in another, improving the overall efficiency of the organization.

About Brainpark

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