Thinking for a living

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Harvard Business School Press, 2005

Introduction
Despite the acknowledged importance of knowledge workers, not enough attention has been paid to improving their performance and productivity. This fascinating book by Thomas Davenport, probably the leading knowledge management expert in the world is about improving the productivity and effectiveness of knowledge workers. These are people with high levels of expertise, education or experience. Their primary job involves finding creation, repackaging, distribution and application of knowledge. Such people think for a living. Hence the title of the book.

Understanding knowledge work
The problems knowledge workers solve are novel and rarely become routine. Knowledge workers don’t like to be directed and controlled. Their work is difficult to structure and predict. Usually, they are better led by example than by command and control. It is difficult to give explicit instructions to knowledge workers.

Some key attributes of knowledge workers:

- They like autonomy
- They are difficult to control by specifying the detailed steps and flow of their work.
- They have to be systematically observed to understand their work
- They have good reasons usually for what they are doing. So they must be trusted.
- They are effective only when they are mentally and emotionally committed to their job.
- They value their work.


In short, knowledge workers cannot be managed in the traditional way.

Classifying knowledge work
Different kinds of knowledge work involve different management challenges. Hence, classification of knowledge work is important. There are two dimensions along which knowledge intensive processes can be characterized: level of interdependence, complexity of work. Complex work with a high degree of interdependence can be called the collaboration model. That with a low level of interdependence can be called the expert model. Routine work with a low level of interdependence can be called the transaction model and that with a high degree of interdependence can be called the integration model.

Transaction work can be scripted. A good example is a call centre. Integration work is relatively structured and there is scope to reuse knowledge assets. Software development falls in this category. Expert work is largely done by individuals. A good example is a doctor. Collaboration work which involves both teamwork and individual expertise is the most difficult to improve in a structured way, eg., investment banking.
Knowledge work can also be classified according to activity. Some people find existing knowledge. Others create new knowledge. Yet others such as writers and journalists, repackage knowledge created by others. Some others distribute knowledge. Finally, there are those who apply knowledge.

Knowledge workers can also be classified on the basis of the kind of ideas they pursue — small or big. Classification can also be done on the basis of cost-scale. Then there can be a classification scheme based on process attributes. Is the work sequential? Does it consist of recurring tasks? How much input is required? Is the process measurable? Knowledge workers can also be classified on the basis of business criticality and mobility.

**Controlling knowledge work**

Like any organizational activity, knowledge work needs to be controlled. The starting point is evaluation. Knowledge workers can be evaluated on the basis of the volume of the knowledge produced, the quality of the decisions or actions taken on the basis of knowledge and the impact of knowledge produced. The output of knowledge workers is difficult to define and measure, in particular because of the quality dimension. One way to measure the quality of knowledge work is to get feedback from a peer group.

All knowledge workers cannot be controlled in the same way. Scripting may work for call centre workers but not for others. Similarly, computer mediated work may be useful for physicians in some health care settings but not for those in others. Top down reengineering may be worth trying, if at all, only in case of lower level or relatively docile knowledge workers.

Most knowledge workers would view a formal process approach as bureaucratic and irritating. But the fact is knowledge workers can benefit from the discipline and structure that a process brings, while remaining free to be creative and improvise when this is necessary and desirable. That is why Microsoft insists on daily builds. Each coder must submit the work done for the day so that it can be integrated with the work done by the others. And many leading Indian software companies, despite giving so much freedom to their employees, insist on time sheets, where employees indicate how they spend their day. The idea is to give people freedom but within a framework. The degree of process orientation possible would depend on the nature of the work. A high degree of structuring is possible in case of transaction workers. Here the process can be built into the job routine. In case of integration workers, the process can be laid down in documents and workers can consult the documents when needed. In case of expert workers, specifying the work flow in detail may be difficult. A better approach here would be to provide templates, sample output and high level guidelines. In case of collaboration workers, specifying and measuring output, instilling a customer orientation and fostering a sense of urgency are likely to be more successful intervention approaches than issuing process flow charts. External knowledge and information, if necessary can be made available through repositories and documents.

The ease of structuring knowledge work also varies from activity to activity. In general, knowledge creation is difficult
to structure though some aspects may be somewhat easier to do so. The early stages of product development are quite fuzzy compared to later stages where more discipline can be imposed. Knowledge distribution is also difficult to structure. The best way to manage knowledge distribution is not to manage the process itself but understand the external circumstances where knowledge distribution takes place. This typically involves a close examination of where and with whom people work. One way to facilitate knowledge distribution is to create cross functional teams. In knowledge application, the key is often to reuse knowledge more effectively. But knowledge asset reuse is hard to achieve in practice. Effective knowledge reuse calls for documentation, libraries, catalogs and modular structures. Many companies do not take a sufficiently long term view of reuse processes to make those investments.

Practice vs Process
The practice side to knowledge work must be balanced with the process perspective. Process is essentially about how work should be done. Practice is how individual workers actually accomplish their assigned tasks. To really understand work practice requires detailed observation and a good understanding of why work done by workers gets done in a particular way. To combine the best of process and practice, knowledge workers must be involved in the design of the new process. The improvement process must be made as participative as possible. The most common forms of process intervention tend to be participative, incremental and continuous. “Agile” methods must be used where possible. These methods are less focused on the specific steps to be followed in a process and more oriented towards the managerial and cultural context surrounding the process. These methods are more adaptive than predictive. They are also more people oriented than process-oriented.

Technology
Technology has been the single most important intervention in knowledge worker performance in the past two decades. Technology does not automatically enhance the productivity of knowledge workers. But a careful understanding of technology and what it can do, will go a long way in giving an impetus to knowledge management. Technology can operate at two levels – organizational and individual.

The type of technology used would vary from job to job.

- In transaction work, relatively low amounts of collaboration and judgment are involved. So the technology should be able to automate structured transactions. A call centre is a good example.

- In integration work, the technology must be able to structure the process and flow of work.

- In expert work, technology should embed knowledge into the flow of the work.

- In collaboration work, which is usually iterative and unstructured, the types of tools that are likely to be the most effective are knowledge repositories and collaboration aids.

The use of technology must be guided by a rigorous cost benefit analysis. Ultimately, any evaluation of knowledge worker technologies will require close observation of how the technology fits into the context of the job. Knowledge workers must be motivated to use a technology. Otherwise, it will have little impact on productivity.

Improving Individual Capabilities
Improving the individual capabilities of knowledge workers can often dramatically improve performance at the organizational level. But the management of the personal information and knowledge environment has not been effectively addressed by many companies. Individual workers have also struggled in this area. Most knowledge
workers still do not know how to deal with all their electronic information effectively. The more effective knowledge workers seem to minimize the number of devices they use, learn one piece of organizational software very well and devote considerable time to organizing and managing their information flows.

Social networks
Knowledge workers often get information to solve problems at work through their social networks. Networking should not be equated with socializing or more communication. It is about building trust, strengthening human relationship and improving the richness of knowledge transferred. Helping employees develop an awareness of who knows what in the organization allows them to know whom to turn for help. In organizations with more cohesive networks, collaborative behaviour becomes an important criterion during recruitment. Skill profiling systems, expertise locators and communities of practice can all go a long way in strengthening relationships and improving collaboration. Performance appraisal systems can also promote collaborative behaviour. Leadership and culture can also have a profound influence on networks. Leaders must through their thoughts, words and deeds signal that they support a collaborative culture. Experiential learning must be encouraged through mechanisms such as “after action review.” Mentoring and encouraging learning from failure are useful cultural attributes. High performers actively manage their knowledge networks. They know they receive a lot of information through network contacts. So they are careful to reciprocate with information and nourish network relationships. A variety of social networking software is also now available to form and nurture social networks.

Physical work environment
The physical work environment also affects knowledge work productivity. Knowledge workers prefer closed offices but seem to communicate better in open ones. Knowledge workers like to congregate in particular geographic areas to remain in touch with the latest developments and to be able to tap the best career opportunities. For example, the IT crowd wants to hang out in Bangalore, Chennai or Hyderabad. The investment bankers like to operate from Mumbai. Knowledge workers often move around in the course of their work. Knowledge workers collaborate. So there must be meeting spaces and conference rooms. Since they like to concentrate, knowledge workers require quiet settings with few distractions. Knowledge workers like flexibility and they like to work at home occasionally. But they don’t want their homes to be their only offices. They want to come together from time to time and exchange notes about their work.

Knowledge workers vary in their tasks and needs. So they should not be given the same physical work environment. Transaction workers need work environments in which they can concentrate on their transactions. Expert workers also want to concentrate while doing their work. Integration workers need an environment in which they can easily communicate with coworkers.

Firms with a low degree of segmentation provide one standard work setting for all employees. Those with a moderate degree of segmentation group their employees into a limited number of categories and assign predefined work settings to each. Yet other firms have highly segmented group work settings.

Some organizations give employees limited choice in designing their work environments. Others give a moderate degree of choice. A few others give a high degree of choice. Organizations whose knowledge workers share common work styles and needs may prefer a one-size-fits-all solution. But such a solution would be a misfit in other organizations.


The right approach to workplace design depends on various factors:

a) How homogeneous is the organization?
b) How important is it for the organization to align knowledge workers’ needs and their work settings?  
c) How much control does the management want to give knowledge workers in designing their solutions?  
d) How much is the company willing to invest?

The solutions must be developed based on a through understanding of work styles and processes. These solutions must be constantly refined in line with the work requirements.
Conclusion
The emergence of knowledge workers has profound implications for management. Because knowledge work can be and is done by managers and workers, strict separation no longer makes sense. Management will undergo the following changes in the coming years. These include:

- From overseeing work to doing it too.
- From organizing hierarchies to organizing communities
- From hiring and firing workers to recruiting and training them
- From evaluating visible job performance to assessing invisible knowledge achievements
- From ignoring culture to building a knowledge-friendly culture
- From supporting the bureaucracy to fending it off

Knowledge workers must be allowed to express dissent and indulge in constructive criticism. Decision making processes must be highly participative. Knowledge workers must be encouraged to cut across organizational boundaries. Social networks must be nurtured. These are challenging tasks for which there is no prescribed recipe.

It may be much easier to find a good knowledge worker than a good knowledge work manager. The role conflicts involved in doing and managing knowledge workers and the need to balance creativity and autonomy with control make the job both challenging and frustrating.

Knowledge work is at the centre of many organizations today. Knowledge intensive industries that don’t improve how knowledge workers do their work will eventually go out of business. But those how do will generate a sustainable advantage of an enduring nature. That is the message from Davenport in this excellent book, a must read for all employees in knowledge organizations.