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What is a Knowledge Worker, Anyway?

by Jim Ware and Charlie Grantham

In our consulting and research work we spend a lot of time exploring how the emergence of knowledge work as the primary driver of economic activity is changing the nature of the workplace and even basic organizational and management practice.

Recently one of our clients asked us a very basic question: "Just what is a knowledge worker?" As he said, "Everyone uses that term but it certainly doesn't seem very well defined. And if we're going to be doing market research and making investments aimed at attracting knowledge workers to our community and local businesses, we sure ought to have some kind of agreement about just who it is we're talking about."

We agree, and that question stimulated the development of a working paper on "Knowledge Work and Knowledge Workers." We're pleased to offer an excerpt from that paper here.

Peter Drucker is generally credited with coining the term "knowledge worker" in 1959. In 1991 he wrote an article on knowledge worker productivity for the *Harvard Business Review* ("The New Productivity Challenge," Nov-Dec 1991, pp69-79) in which he more or less put knowledge work (ill-defined at best) and service work in one large, rather amorphous, bucket. The closest he came to defining "knowledge and service" work in that article was this:

Knowledge and service workers range from research scientists and cardiac surgeons through draftswomen and store managers to 16-year olds who flip hamburgers in fast-food restaurants on Saturday afternoons. Their ranks also include people whose work makes them "machine operators": dishwashers, janitors, data-entry operators.

At that time Drucker was not particularly concerned with where and when these knowledge workers accomplished their tasks; his focus was on improving their productivity, which he called the "single greatest challenge facing managers in the developed countries of the world."

However, in 2007, in a global economy that is enabled by powerful information technologies and driven by creativity and innovation, most knowledge workers are increasingly mobile, location-independent, and free to choose where, when, and for whom they will work.

As local economic developers consider whether to invest in new kinds of infrastructure and new work environments as part of their efforts to attract, retain, and leverage talent, we need to develop and agree on more precise definitions of who is a "knowledge worker," how many of them there are in a given region, and what kinds of services and infrastructure they want and need to be successful.

A Basic Definition

The broadest view of knowledge work is that it is an activity that either requires specialized knowledge or skills, or creates new knowledge. In contrast to physical labor, knowledge work focuses primarily on *creating* or *applying* information or knowledge to create value.

So what exactly *is* a knowledge worker, and how can the nature of his or her work be described? At the most generic level, the term “knowledge worker” refers to individuals who possess high levels of education and/or expertise in a particular area, and who use their cognitive skills to engage in complex problem solving.

Wikipedia defines a knowledge worker as:

Someone who works primarily with information or one who develops and uses knowledge in the workplace (see http://en.wikipedia.org/wiki/Knowledge_worker).

Babson College Professor Thomas Davenport, who has probably studied knowledge work and knowledge workers more than almost any other active scholar today, has this to say about the concept:

I certainly think there's a lot of fuzziness, ambiguity, and imprecision about what a knowledge worker is, and it's not a term most managers use easily. They don't say, "Okay, these are my knowledge workers, these are my non-knowledge workers." So despite the fact that the term's been around for a long time, very few people have been comfortable using it as a managerial concept.

(From an interview conducted by *Ubiquity Magazine*, available online at: http://www.acm.org/ubiquity/interviews/v6i34_davenport.html)

Davenport then proceeds to define knowledge workers as “*people with high degrees of education or expertise whose primary job function involves some activity related to knowledge.*”

These very broad definitions, however, encompass almost all forms of meaningful work. Even a barber, a hair stylist, a hamburger flipper, or an assembly line worker has some degree of specialized knowledge about what he or she must do to be successful, although there are certainly differing levels of productivity and effectiveness depending on an individual's knowledge and experience.

Thus, knowledge workers indisputably include individuals in the traditional professions, such as doctors, lawyers, scientists, educators, and engineers. Most of us would also include those who work in senior positions in marketing, advertising, consulting, finance, insurance, and strategy development, to name just a few functional specialties. And then there are also specialized knowledge-based jobs like airline pilots, musicians, senior business executives, and even government officials.

Because their work typically entails the interpretation and manipulation of information as well as the creation of new knowledge (as opposed to relatively routine data collection and processing), knowledge workers are usually considered a distinctly different “breed” than their less-skilled

white-collar counterparts such as bank tellers, bookkeepers, call center specialists, or clerks who perform relatively routine work in highly structured and procedurally-constrained ways.

However, some would argue that those latter workers are increasingly taking on more “knowledge worker-like” qualities, due to the availability of computer-based technologies for conducting many of their routine activities; and today even factory-floor production management requires significant high-tech literacy and knowledge.

A Basic Typology of Knowledge Work

As these examples of who “knowledge workers” are and what they do already indicate, knowledge work encompasses an enormously diverse set of tasks and jobs. Clearly, the nature of the work in these jobs varies all over the map.

Take for example the tasks of a software customer support technician versus those of a marketing strategist. A customer support technician often relies on a small number of routines to solve a particular customer problem, identifying the nature of the problem and then linking it to one or more pre-conceived solutions provided within a database of solutions.

The job of a marketing strategist, on the other hand, is often much more imaginative and original. In this case, he or she may analyze marketing data and combine it with personal insight, intuition, etc. in order to design a new strategy (e.g., gaining market share). The process of converting a mass of raw information from many sources into something as abstract as a strategy is normally a much more complex and creative act than “merely” solving a customer’s technical problem. In addition, this kind of knowledge worker frequently does not know for quite some time whether his or her activities solved a particular problem.

We believe that these apparent differences can be captured by two “ideal type” categories of knowledge workers: *Knowledge Executors* and *Knowledge Generators*. This distinction parallels the work of Richard Florida, who studied what he calls the “creative class” and identified a broad range of personal values, work styles, and motivations that are distinctive to that group of individuals.

Knowledge Executors are those workers who apply existing knowledge by manipulating information through processes created or invented by others. Knowledge Generators, on the other hand, create new knowledge by manipulating information to develop new solutions to a given problem, or to create new concepts or products.

It must be stressed that we view Knowledge Executors and Knowledge Generators as “ideal types” and that we do not believe that any single type of knowledge worker can be placed neatly or exclusively in one category or the other. Rather, we propose that all knowledge work entails both kinds of activities but that each particular job can be placed along a continuum: some jobs entail more knowledge execution than knowledge generation, and visa versa.

However, the dominant question for anyone considering a flexible or distributed work program is whether someone’s work activities could be performed just as effectively from a remote location (or multiple locations over time). While most of the examples cited here are reasonably location-independent, there are often special circumstances that “bind” an individual to a specific workplace for at least some portion of his or her work time.

For example, an engineer working with specialized high-tech equipment would most likely not be able to afford multiple installations of that equipment at, say, several corporate locations and a home office. And some knowledge worker tasks do require physical proximity to other people. While there have been some advances in surgical robotics, we don't expect to see surgeons performing remote operations from their spare bedrooms in the very near future.

The difficulty with generalizations about knowledge workers is that knowledge work is inherently diverse and varied. Almost any definition of a knowledge-based job will include some tasks that are essentially location-independent, but only some jobs have become totally "post-geographic."

That's part of what makes organizational initiatives to foster distributed work so inherently challenging and frustratingly complex. As we noted in our newsletter series and white paper on distributed work last fall ("[How Come Distributed Work is Still the Next Big Thing?](#)"), this whole topic remains more an art than a science.

As usual, your comments and reactions are more than welcome. As always, please send your thoughts to us at comments@thefutureofwork.net.

About the Work Design Collaborative and *Future of Work Agenda*

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