



Klaus North *and* Stefan Gueldenberg

EFFECTIVE KNOWLEDGE WORK

Answers to the Management Challenge of the 21st Century

EFFECTIVE KNOWLEDGE WORK: ANSWERS TO THE MANAGEMENT CHALLENGES OF THE 21ST CENTURY

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With several case studies



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INVESTOR IN PEOPLE

**EFFECTIVE KNOWLEDGE WORK:
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CHALLENGES OF THE 21ST CENTURY**

Endorsements

Peter Drucker identified the need to increase knowledge-worker productivity as the most important management challenge of the 21st century. With a compelling blend of theory and practical advice, Klaus North and Stefan Gueldenberg have given us a much-needed road map to begin meeting that challenge.

Rick Wartzman, Executive Director of the Drucker Institute
at Claremont Graduate University and columnist
for Bloomberg Businessweek

Can knowledge workers be managed? This is one of the central questions in the book, and one that continues to interest scholars and managers alike. The authors convincingly argue it can, given the right context and systems. This is a wonderful book containing a valuable collection of ideas, tools, and approaches for those who would like to make the most out of knowledge-intensive work.

Georg von Krogh, PhD Professor of Strategic Management
and Innovation Department of Management, Technology,
and Economics ETH Zurich

To compete in today's globalized world, an organization's capacity to connect human minds and to harvest high performance of its talents is key. But how can we tap the full potential of human knowledge, creativity and innovation in our organizations? Based on an excellent combination of scientific reflection and practical insights, Klaus North and Stefan Gueldenberg develop a helpful framework that provides concrete suggestions to analyze and design effective knowledge work.

Prof. Gilbert Probst Managing Director, Leadership Office &
Academic Affairs World Economic Forum

Making knowledge work effective in a time of increasing information overload is the great management challenge of our time - we all know this. I welcome this book since it puts the emphasis on the "how" - this is what is needed today.

Dr. Doris Drucker, Board Member, The Drucker Institute

Foreword by the President of the Drucker Society Europe

When Peter Drucker coined the term 'Knowledge Work' in the late 1950s, only a few appreciated the fundamental shift occurring in our economy and our society. True, it was hardly new news that knowledge had become a determining factor for modern economies. However, the consequences of this development on organisations and institutions were first sensed by Peter Drucker in terms of its dimension and its impact on organisations — with a new breed of 'Knowledge Workers' taking on an increasing share of value creation in modern economies.

From a bird's eye perspective, the evolution towards the knowledge society grew out of a development that started with the Industrial Revolution. On the basis of the philosophy of Enlightenment, scientific progress has spawned consecutive waves of technological innovation that would change the face of the planet forever. It created the foundations for a leap in world population that will culminate in some 9 billion by 2050 — invalidating the limitations for population growth set by Malthusian laws. These technological innovations were accompanied by powerful social innovations — Capitalism and Liberal Democracy on the one hand, and more recently Management — a *social technology* as Drucker called it. The mutual reinforcement of technological and social innovations brought about an unprecedented capacity to create wealth and led to the spread of democratic societies with open economic systems around the world.

With the proliferation of computing technology in the second half of the 20th century, it became clear that routine tasks could be largely taken over by machines — hence, most value creation would come from higher-order knowledge work requiring a combination of deep knowledge, experience, human ingenuity and motivation.

As the 20th-century society evolved into an increasingly dense fabric of interconnected organisations and institutions, professional management emerged first as an incidental occupation and then gradually evolved into a new discipline aimed at achieving performance in organisations. Although Peter Drucker himself was instrumental in defining management as a discipline that could be taught and learned in a systematic way, he recognised early that business and non-business institutions alike tended to impede knowledge work. With their bureaucratic pedigree and their approaches inspired by Taylor's legacy, they provided little to none of the environment that knowledge workers needed to be productive by all too

often curtailing autonomy and initiative. Looking at these sobering realities, it was logical that Peter Drucker launched his big challenge to Management of the 21st century. 'The most important, and indeed the truly unique, contribution of management in the 20th century was the fiftyfold increase in the productivity of the manual worker in manufacturing', Drucker declared. 'The most important contribution management needs to make in the 21st century is similarly to increase the productivity of knowledge work and the knowledge worker'.

With all the frenzy generated by the latest developments in internet-based applications and mobile technologies, one would think that already today we have everything in place to make us highly productive in our knowledge work. Just look at the plethora of new applications and gadgets — collaborative tools, social networking, virtual worlds, blogs, wikis and a new set of mobile devices such as tablets, smartphones and so on. Yet, to assume that technology by itself would bring the desired step change in the effectiveness of knowledge work is way off the mark. Just remember when well-meaning experts explained to us that databases filled with information created inside and outside companies would set off a quantum leap in knowledge productivity in business. As everybody knows by now, this type of tools-centred knowledge management was a colossal failure. The root causes were manifold and range from a lack of understanding of the importance of tacit knowledge, which could not be codified in knowledge repositories, to stifling management systems and an underestimation of the cultural aspects of knowledge sharing.

Equally, what we currently observe with social networking tools cannot yet be considered as considerably enhancing knowledge work. Blogs, wikis and other online tools are not yet widely used in companies these days. However, in contrast to the flawed knowledge databases, they all bring a new quality, that is, a capacity for connecting human minds that did not exist before. Hence, we may be at the threshold of a new form of knowledge management and a new way of boosting knowledge worker productivity. However, this will only come to fruition if the systemic elements including the human factors for knowledge creation and dissemination processes are well understood and taken into account.

This is exactly the reason why the book *Effective Knowledge Work* is of such great importance today. Not only does it provide us with a framework for better understanding knowledge work and knowledge workers as such, but it is also highly geared towards application and practice with numerous case studies. When reading it, it will become clear that making knowledge work effective means much more than establishing a new function or process. Such an endeavour touches the very core of how organisations function and generate value. It will ultimately bring us closer to tap the full potential for human knowledge, creativity and innovation in today's organisations and institutions.

Yet, better productivity in knowledge work does not mean an increase in the quantity of knowledge produced — but rather denotes greater availability of the right knowledge in the right place when needed. It also signifies the creation of essential new knowledge for the company to achieve a competitive advantage and to drive innovation and change in a complex and unpredictable environment.

In contrast to the flawed assumptions of the past, it is not primarily codified and static knowledge driving economic value but dynamic, fast-moving and evolving knowledge, which is constantly shaped by the interplay between practice and rigorous scientific reflection.

I commend the authors for having taken on this vital and highly underexposed subject — it is an important step in the right direction. Practice and management research will have to follow and explore more of this uncharted territory — albeit now with a much better map to hand.

I shall end with another quote from Peter Drucker that drives home the point that despite all the great technology, knowledge work is essentially about people: 'Knowledge is not impersonal, like money. Knowledge does not reside in a book, a database, a software program; they contain only information. Knowledge is always embodied in a person; carried by a person; taught and passed on by a person; created, augmented or improved by a person; applied by a person; used or misused by a person. The shift to the knowledge society therefore puts the person in the centre. In so doing, it raises quite unprecedented questions about the knowledge society's representative, the educated person'.

Dr. Richard Straub
President, Drucker Society, Europe

Preface

'The most important contribution of management in the 20th century was to increase manual worker productivity fifty-fold. The most important contribution of management in the 21st century will be to increase knowledge worker productivity-hopefully by the same percentage. [...] The methods, however, are totally different from those that increased the productivity of manual workers' (Peter F. Drucker).

The wealth of the western world is, to a large extent, attributed to its efficient management of manual work and the resultant increase in productivity since the beginning of the industrial revolution. Today, however, we need to acknowledge that our management practices and control mechanisms are less suitable on the one hand for facilitating effective knowledge work in organisations and, on the other hand, for attracting the best brains to perform in knowledge-intensive organisations.

Motivational factors for knowledge workers and manual workers differ considerably. Thus, for example, knowledge workers are increasingly reluctant to work in a company with a classical hierarchy structure. The best minds often leave the company to work independently. Does this mean that our companies are not attractive enough for knowledge workers? Or is it just a wrong style of management and outdated management methods that make more and more knowledge workers seek their future elsewhere? Are there any successful models of promoting career paths as a professional as against a career in management?

In the day-to-day work, the way in which information and communication technologies are being used (e.g. the flood of e-mails) seems to have an adverse effect on the productivity of knowledge work. Supply-oriented and centralised methods of knowledge management fail to address the concrete needs and expectations of knowledge workers.

This book presents tried and tested methods offering concrete suggestions to analyse and design effective knowledge work. Each topic is accompanied by a self-diagnosis allowing the reader to assess their own situation; 15 cases have been included as a source of inspiration as to 'next practices' for shaping the future of knowledge work.

Among others, the book addresses the following questions:

- What is knowledge work?
- What are strategies and methods for increasing productivity, quality, effectiveness and value of knowledge work as well as well-being and work satisfaction of knowledge workers?

- Can knowledge workers be managed, and if yes, how?
- How to select the right information and communication technology (ICT) support and make best use of it?
- What are adequate methods for measuring performance of knowledge workers?

This book comprises two books: One is a guideline for creating and reflecting upon knowledge work and the other is a collection of case studies from different fields of knowledge work, given under each subsection. They demonstrate how productive knowledge work can be carried out.

This book also shows how modern knowledge work functions in today's world; it is a collective work. We thank all the contributors of the case studies for their creative inputs. Brief information about the authors is provided in the About the Authors.

We are also thankful to Mr. Rupert Petschina who has authored Chapter 4 on information and communication technology.

Our thanks go to Virendra Degvekar and his team for translating the original German version of the book to English.

We would like to express our special thanks to Joachim Stonig who took on the responsibility of editing the complete book as well as researching, updating literature and cases assisted by Jana Muecke.

We thank Emerald Group Publishing, particularly Diane Heath and Catriona Gelder, for supporting the project.

We hope this book makes enjoyable reading and look forward to your views and comments. Please write to us at k.north@gmx.de or stefan.gueldenberg@uni.li.

Klaus North and Stefan Gueldenberg
Wiesbaden and Vaduz, Autumn 2011

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Chapter 1

Knowledge Work(ers) — The Challenges

1.1. Three Reasons to Engage in Effective Knowledge Work

The press is full of reports about relocation of manufacturing units to low-cost locations. We are increasingly losing out on easy-to-learn jobs. However, this loss is not yet fully compensated by the increasing number of people employed in knowledge-intensive occupations. In the United States and Europe, more than 30% of the economically active population works in knowledge-intensive and creative professions such as engineering, science, teaching, consulting, banking, management, journalism, medical practice, law and art; in social professions; or in the information and communication sector, just to name a few (Hall, 2007; National Science Board, 2010). Figure 1.1 shows how the percentage of those employed changes as the society transforms from an industry-oriented to a knowledge-oriented one. In 2007, knowledge- and technology-intensive industries combined contributed just under \$16 trillion to global economic output — about 30% of the world's GDP. In Great Britain, these changes have been even more marked than in most of the rest of the world. The British share of manufacturing in total economic output declined from 35% to below 15% between 1970 and 2005, and the share of knowledge services went up from 23% to 46% in the same time period (Brinkley et al., 2009).

Knowledge-intensive jobs

Florida (2002) postulates the rise of a new social stratum, the *creative class*, whose values comprise creativity, individuality, and being unique and performance oriented. The creative sector accounts for nearly half of the total wages and salaries of the US economy (Florida, 2007, p. 29).

Creative class

Even in the remaining two thirds of occupations, the percentage of information and knowledge processing is on the rise. 'Value creation through knowledge' is becoming the dominant source of our prosperity. We can maintain and multiply this prosperity only if it is based on effective and creative knowledge work.

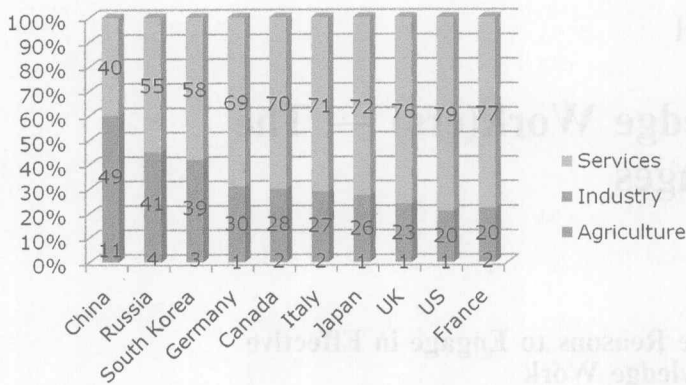


Figure 1.1: Sectoral analysis of GDP contribution for different countries, 2008. Data taken from the National Science Board 2010 report.

Global knowledge economy

However, many of the solutions from the industrial age do not serve this purpose. Knowledge workers, companies, organisations and even regions and countries are working towards positioning themselves in the global knowledge economy, and are looking for suitable methods to attract, develop, retain talents and make the most of them.

Let us look at three pertinent reasons to engage in effective knowledge work:

1. Why knowledge workers should reflect on their knowledge work?

Taylor's division of labour: Even for knowledge work

The much lamented shortage of qualified personnel does not translate into an automatic increase in the market value of knowledge workers. Not only industrial work but also knowledge work is governed by the rules of globalisation. It is likely that knowledge work will be off-shored when, for instance, the costs incurred on a programmer in Eastern Europe or India is just a fraction of the local costs.

Knowledge work, just like industrial work, is also divided according to Taylor's principles. Simple tasks which can be standardised are executed in places where economically priced skilled workers are available. The compilation, interpretation, and linking of these parts are then done by the better paid knowledge workers in the high-wage countries. We will look at this in more detail in Section 3.5. You can try calculating for yourself if your job is at risk.

Estimate how your value added relates to the total costs of your workplace (salary and overheads as well as capital investment in your work place and social services).

$$\frac{\text{Value added}}{\text{Total cost of work place}}$$

Don't you have the data? Are you unaware of the value you are adding? Then it's about time you find out. If the ratio between value added and total costs of the workplace is in the order of 2, you can rest assured that your job is fairly secure. It could get unpleasant for you though if this ratio were to be less than or equal to 1. In such a case you would be financially less attractive a proposition for your employer.

A self-employed individual previously associated with a large corporation remarked regarding this value cost relation: *'It is only now that I realise how much I need to work to maintain the level of income I made in my earlier job. I think many of my former colleagues do not "earn" the salaries they receive'.*

Knowledge workers are increasingly turning to self-employment and become 'knowledge-preneurs' (Carson, 2001). Their knowledge has to be marketed well and their time has to be used productively.

Many knowledge workers complain about information overload and ever increasing intensity of work. Do you personally have strategies of management of information and knowledge? And honestly, do you make full use of your talents, abilities and potential to finish the task at hand? Or do you tell yourself: 'It is just not worth it. I'd rather not. I would end up being thwarted anyway.' If this is the case, you need to ask yourself whether your current job is the right one for you.

2. Why organisations should bother about effective knowledge work?

How can we attract and retain the talents we need? How can we lead our highly qualified employees, striving for individual responsibility and self-realisation, to achieve company goals? Do we encourage and mobilise the potential of our employees? And do we even know the potential of our employees?

Many organisations fail to find satisfactory answers to these questions. With knowledge work playing such a dominant role, the machine, as a metaphor for the organisation from the industrial age, becomes outdated. Ideas of organisations as living social systems are often defined in theory but rarely reflect the

What is your market value as knowledge worker?

Self-employment of knowledge workers!

Organizations are living social systems

Second-order competitive advantages gain importance

daily practices of companies. Currently, organisations put in too much effort in achieving competitive advantages of the first order. They focus on quality leadership, brand power, and product and service innovations (Wüthrich, Osmetz, & Kaduk, 2007). But some organisations have realised that it is worthwhile to look actively and systematically for competitive advantages of the second order. According to Wüthrich et al. (2007), these organisations empower their employees to experience necessary personal freedom, to be passionate about their work and to use their intelligence for the benefit of the organisation.

If your organisation is still focusing on first-order strategies and practices, it is time to think about the challenges and potentials of second-order competitive advantages to harvest high performance of your talents (Figure 1.2).

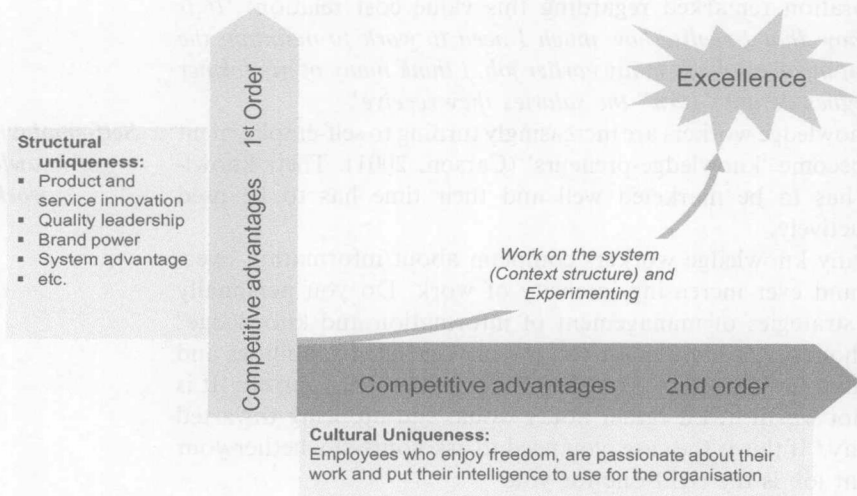


Figure 1.2: Competitive advantages of first and second order (Wüthrich et al., 2007).

3. Why regions should have strategies to attract and develop talents?

Knowledge creates growth

Regions with a high percentage of people employed in knowledge-intensive occupations have a higher per capita Gross National Product (GNP) than comparable regions. Knowledge work is becoming the growth engine of the region. The *creative class* (Florida, 2002) has high purchasing power, is mobile and is well-informed. Regions worldwide have recognised this and are courting the best talents. The lack of qualified personnel,

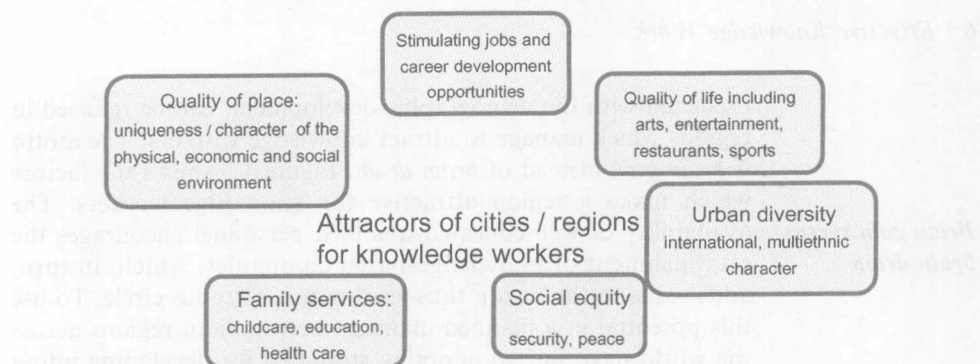


Figure 1.3: What makes a region attractive for knowledge workers? Based on Florida (2002), Montreal Knowledge City Advisory Committee (2003), and Yigitcanlar, Tan and Baum, Scott and Horton, and Stephen (2007).

Table 1.1: Checklist: Why you should engage in effective knowledge work.

	Completely Agree	Partly Agree	Disagree
<i>Knowledge Worker</i>			
1. The work that I do is not easy to relocate . It cannot be done elsewhere with the same quality at lower costs			
2. For my work, the ratio of value added to total labour costs is >1			
3. I am actively developing my value proposition to enhance my employability			
4. I have effective personal strategies for managing information and knowledge			
<i>Knowledge Organisation</i>			
5. We are successful in aligning and leading knowledge workers to achieve our company goals			
6. We are satisfied with the way we utilise and develop the potential of our employees			
7. We systematically develop competitive advantages of second order			
8. We have suitable instruments for measuring the effectiveness of knowledge work			
<i>Knowledge Region</i>			
9. We have enough skilled professionals in our region			
10. The region is attractive for knowledge workers			
11. The region effectively links education, research and business			
12. The region actively supports the establishment of knowledge-intensive and creative organisations			