

A Review and Redefinition of Knowledge Work from a Management-Oriented Perspective

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Abstract

This paper is based on the observation that increasing interest in the subject of knowledge work has not yet led to a universally accepted explication of the meaning of the term knowledge work. We argue that the major challenges that are generally claimed to arise in managing knowledge work are rather based on different meanings of on knowledge work. This claim is corroborated by the review of three examples. Based on this analysis we propose a new definition of the term knowledge work in respect to the essential characteristics that are important for a precise comprehension of the management challenges knowledge work involve.

1. What does the term Knowledge Work mean?

The term 'knowledge work' which was originally popularised by Peter Drucker in the 1960s¹ has, in the meantime, become an established term within management science and practice.

This increasing interest in knowledge work seems to be related to the changes that took place in the last decades in western societies' labour market. The proportion of workers with higher occupational qualifications has increased by nearly ten percentage points within the last 20 years², and so-called 'derivative service jobs' such as coaching and consulting, teaching and publishing, research and development as well as management have increased by approximately the same percentage points within that very

¹ Cf. [Dru06]

² Cf. [RH02]

period.³ Many of these changes in the labour market can be ascribed to the diffusion of information and communication technologies.⁴

Observing these changes from their beginning, Drucker also addressed the question of their impact on management. He proposed that the emergence of knowledge work imposes new and entirely different challenges on management.⁵ However, in regard to the justification of his proposition and the specification of the new management challenges, which arise with knowledge work, Drucker remained rather abstract and vague.⁶ Subsequent researchers have addressed the challenges associated with the management of knowledge work more precisely, though quite differently.⁷

Despite an abundance of research in this field, there is neither a universally accepted understanding of the management challenges associated with knowledge work nor of the anatomy of knowledge work itself. We argue that these two observations are interconnected, since different management challenges derive from different understandings of the subject matter; understandings that often have neither been precisely nor explicitly specified.⁸ Therefore, we suggest to generate a definition that precisely explicates the essential characteristics of knowledge work from a management-oriented perspective.

In developing such a definition, we propose to set out with a review of three major challenges that are commonly associated with the management of knowledge work, while, at the same time, focussing on an explication of the respective underlying understandings of knowledge work. We suggest to explicate the understanding of knowledge work

1. as expert work,
2. as cognitive activity,
3. as discretionary behaviour.

In explicating these understandings, we shall endeavour to specify them more succinctly in regard to the related management challenges.

Finally, we propose to integrate the different specific understandings into a re-definition of the essential characteristics of knowledge work from a management-oriented perspective.

³ Cf. [Dos01]

⁴ Cf. [Cas96]

⁵ Cf. [Dru93]; [Dru99]; [Dru06]

⁶ Cf. to the criticism on Drucker's concept [WY03]

⁷ Cf. [Han90]; [Tof90]; [PfSt99]; [NRS02]; [Al04]; [Dav05]

⁸ Cf. [KB00]; [Dav05]

2. Knowledge Work as Expert Work

One major challenge that is commonly associated with the management of knowledge work is the task of governing and controlling the work of well educated experts; a task to be best assigned to experts themselves.⁹ In fact, a growing number of managers in highly specialized areas seem to have responsibility for the work of the experts without having the competence for an effective assessment and control of the experts' work. These competencies rest with the experts, and this in turn provides the experts with power based on information asymmetry. In economics, this problem is also treated as the 'principal-agent problem'.¹⁰

If this phenomenon is regarded as the crucial problem in the management of knowledge work, this means, in turn, that the essential characteristic of knowledge work rests in the expertise of the worker. According to this perspective, the term 'knowledge work' refers to every type of work performed by workers with a comparatively exclusive, often academically imparted, expertise. Therefore, this understanding of knowledge work best applies to work executed by professionals and semi-professionals, such as physicians, lawyers, accountants and engineers. An extensive number of the early research treatises in the subject have implicitly defined knowledge work in that way¹¹ and it is still an element of recent approaches¹².

With respect to the management challenge referred to above, the information, or, more precisely, the expertise asymmetry does not occur under every circumstance. It occurs, if the specialist is in charge of non-repetitive and non-standardisable tasks which cannot be represented in a detailed procedure; tasks that require a great deal of professional discernment.

Considering these conditions, knowledge work, as redefined in a management-oriented perspective, is more adequately conceived of as a type of work requiring professional discernment of non-standardisable situations. This definition implies that it is the professional worker himself who is best capable of assessing and controlling his work.

⁹ Cf. [Sv98]; [Dru98]; [NRS02]; [Am02]; [Al04]; [Dav05]

¹⁰ Cf. [Ei89]

¹¹ Cf. [Nom89]; [Ben90]

¹² Cf. [Sv98]; [PfSt99]; [NRS02]; [Al04]; [Dav05]

3. Knowledge Work as Cognitive Activity

A second topic which is commonly referred to as imposing a challenge on the management of knowledge work deals with the fact that this kind of work contains large proportions of invisible and intangible activities which cannot be supervised in an appropriate way.¹³ It is, in fact, almost impossible to observe, if a worker who has to conduct an analysis performs the right tasks, performs those tasks efficiently or does work at all.

If the invisibility and intangibility are seen as the major challenges in the management of knowledge work, the essential characteristic of knowledge work lies with the task that has to be carried out. According to this perspective, knowledge work is carried out in the performance of any task that is primarily based on cognitive requirements, irrespective of the competence of the worker. This definition has been explicitly formulated in a number of concepts¹⁴ and does best apply to tasks requiring operations of classification, analysis, diagnosis, implementation and construction.

Relating this definition to the problem of the invisibility and intangibility of knowledge work, it has to be taken into account that not every cognitive work task is invisible and intangible in the same way. The decision of an entitlement to a legal claim can be made visible by the enactment of detailed norms and procedures and by their implementation in workflows, checklists and formal reviews. Yet such formalisation – one might even say bureaucratisation - of cognitive activities requires that an initial state, a target state and the necessary operations of a task be clearly defined. The invisibility and intangibility problem is, therefore, most virulent for tasks that cannot be defined in terms of aforementioned status constituents. In cognitive psychology, these tasks are called ill-structured problems.¹⁵

This is why knowledge work, from a management-oriented perspective, is best specified as tasks requiring solutions to ill-structured problems. This definition implies that the process and results of knowledge work are to a large extent invisible and intangible.

¹³ Cf. [PfSt99]; [Hu05]; [Dru06]

¹⁴ Cf. [Tof89]; [Kel90]; [Han90]; [Dru93]; [Hor99]

¹⁵ Cf. [Sim73]

4. Knowledge Work as Discretionary Behaviour

A third issue commonly regarded as a specific challenge for the management of knowledge work is the necessity to facilitate the identification, application, generation and dissemination of knowledge within the workplace and the organisation.¹⁶ This necessity represents a challenge since it affects the strictly discretionary behaviour of workers and work teams. For it might be possible to demand the preparation of a presentation or the development of a design from a contracted worker; but it is hardly possible to demand that every relevant piece of information be incorporated or disseminated within the organisation by the worker during the execution of his task.

If the vital problem in managing knowledge work is seen in this challenge, knowledge work is implicitly defined as a discretionary type of behaviour.¹⁷ According to this definition, a certain kind of work can be classified as knowledge work if a task is performed by identifying, using, generating and/or transferring as much relevant knowledge as possible thereby. This definition underlies most knowledge management concepts which deal with the problem of identifying, applying, creating and transferring knowledge throughout an organisation.¹⁸

However, this management challenge also appears only under a certain condition. The aforementioned behaviour is not to be regarded as essential if there is only one correct way to accomplish a given task. This applies to tasks such as algebraic exercises or the execution of a predefined construction according to operating instructions. If a job consists of such tasks, there is simply no need for the usage of knowledge that goes beyond the accomplishment. On the other hand, knowledge-oriented behaviour is of the essence for all tasks whose optimal results and/or operations are unknown; such 'open tasks' occur in almost every job, but are prevailing in highly analytical and conceptual work.

Starting with the notion of knowledge work as discretionary behaviour, the term is more accurately defined from a management-oriented perspective as behaviour of searching optimal results in the fulfilment of open tasks and disseminating it within the organisation.

¹⁶ Cf. [KB00]; [Am02]; [NRS02]; [Dav05]

¹⁷ Cf. [KB00]

¹⁸ Cf. [NT95]; [PfSu00]; [NRS02]; [Dav05]

5. Knowledge Work Re-defined

In the previous chapters three different challenges which are commonly associated with the management of knowledge work have been examined with a view to their underlying definitions. This suggests three possible definitions of knowledge work:

1. Knowledge work involves the application of professional discernment to non-standardisable situations.
2. Knowledge work implies the performance of tasks that require solutions to ill-structured problems.
3. Knowledge work denotes a specific type of behaviour, namely that of searching optimal results in the fulfilment of open tasks and disseminating them within the organisation.

The common element in these three definitions is that they all refer to certain kinds of tasks, which can be described as non-standardisable, ill-structured and open. It is obvious that if one of these attributes can be applied to a task, the other two apply as well: Every task whose initial state, target state and essential operations are ill-defined can neither be standardised. Such tasks also always offer more than one possible solution. We therefore regard it as sufficient to define knowledge work in terms of the second definition, i.e. as the performance of a task that requires solutions to ill-defined problems.

The proposed definition implies that the essential characteristic of knowledge work rests with the kind of task to be carried out. On the one hand, this definition allows for a differentiation of different degrees of knowledge work, in dependence on the quality of the task definition. On the other hand, it excludes any kind of standardised, well-defined work which does, from our point of view, not entail new management challenges.

The suggested definition further allows for the specification of above management challenges, as outlined below:

1. Work on ill-structured problems requires not only the capacity to solve a problem, but the capacity to define it. Therefore the respective management has to determine to whom the definition of such ill-structured problems is to be assigned and how the process problem definition has to be organised.
2. Work on ill-structured problems involves definition work carried out in cognitive processes, which are invisible and intangible. This generates another problem, namely that of if and how cognitive definition processes can be represented in workable procedure

models and objectified intermediate results which might allow for a more pro-active controlling of the work performance.

3. Work on ill-structured problems also implies that the optimal result, if existent at all, is not known. Thus a manager has to face the dilemma of developing and implementing clear and effective acceptance criteria for the results on the one hand, and of facilitating continuously improving behaviour on the other hand – usually under schedule and budget pressure. Managing knowledge work, therefore, also implies the discrimination between tasks, which have to be defined as knowledge work and tasks, whose execution, although belonging to the sphere of knowledge work, are to be designed in a less expensive and well-defined manner.

In this context, we cannot offer solutions to the problems proposed. What we have offered is, in fact, an approach favouring a focus on problem specifications, whose solutions require further knowledge work.

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