Personal knowledge Management (PKM) oriented to increase k-worker's productivity: Suricata platform

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Abstract

The new nature of knowledge work (k-work) demands changes in the attitudes and skills of the knowledge workers (k-workers) and the need for new virtual work environments (PKM). This research identifies the elements and factors related to the k-worker's productivity and shows how to integrate such elements in a digital space (digital dashboard) in order to take into account the personal, professional and corporative dimension.

Keywords: PKM, k-worker, digital dashboard

1 Introduction

The purpose of the present paper is to offer a research in order to identifies the elements and factors that affect the improvement of productivity of knowledge workers (k-worker) and how to integrate them in an environment of personal and corporate work. To get this purpose there are proposed the following objectives: 1) To determine the profile of the k-worker and his role in the organization. 2) To define the elements and tools that the knowledge worker uses 3)To design a personal and corporate knowledge management (PKM) that allows the knowledge worker to improve productivity and 4)To implement the design in an organization with intensive use of information.

2 K-work and k-workers

In nowadays labour environment the working we can identify two important aspects. Firs the new nature of work and on the other side, the knowledge workers.

Researchers such as Reina, Jorge y Curtis, Ferry(1998) [6], Nickols, Fred (2001) [7], Marcus, Robert (2002) [6] among others, agree that, there exists a changeable nature of work where activities of process information are being used in a wider set of occupations. This new reality is the global context in which any environment of work is developed. In such a context it is where the manual work has evolved into the knowledge work. The labour yield of the worker goes from public to private (invisible) since the principal result of work can't be easily seen. This private nature of the knowledge work makes it difficult to establish links among behaviours, tools and results.

Knowledge work is a complex combination of different processes around knowledge, information, learning, thinking, meditating, creativity and communication. Also, the control changes from the supervisor to the worker. The same way, the approach is moved to the process of work and not to the worker. The consequence of this is that organizations should offer to workers better and more appropriate work tools.

Peter Drucker was the first to use the term, Knowledge Worker. He describes the character of knowledge workers: *"Knowledge Workers are not satisfied with work that is only a livelihood. Their aspirations and their view of themselves are those of the "professional" or "intellectual." They demand that knowledge become the basis for accomplishment"*[5]. This important Druker's contribution has led us to the conception of the knowledge worker who can be synthesized in: a person, who compiles, analyzes, adds values and communicates information to improve the decisions making [8].

Also, we can say that the k-worker produces knowledge, ideas, information; products that are apparently useless by itself. It needs from somebody for to grab and to integrate them in a productive dynamics. The consequence of this affirmation is that the knowledge worker needs an environment where he could integrate the result of his work.

In this new environment of the work they appreciate transformations such: promotion of the change as creative element, organization of the work in teams, existence of creative leadership, respect for the individuality of the worker, cooperative work, and especially the recognition of the knowledge like an asset that can be managed.

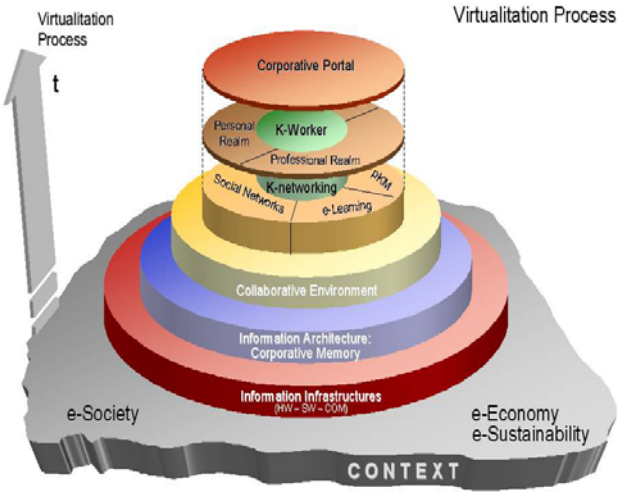

Figure 1 – Suricata model

The Suricata model[10] of socio-technical innovation developed by CICEI[1] offers a reference frame in which a global strategy of knowledge management is developed and oriented to processes. The model is constructed by levels and generates various action lines: technological infrastructures, knowledge architecture, ontology, learning in the work place, management by process and services to increase productivity in organizations. Regarding the area of learning in the work place, the research shows how the model is developed and its (Suricata Platform) consequent implementation, which initially will be in a centre of I+D+i , such as the CICEI.

As it can be seen in figure 1, the model tries to give a response to the increasing society virtualisation phenomenon, in the social area (society in net, society of the information, society of the knowledge), and in the organizations (organization in net, organization based on knowledge).

The basement in the model, is the social, economic and sustainability context, characterized by an intensive use of Information Technologies (e-society, e-economy, e-sustainability). Over this basement It has been added progressive levels of which the first one is the infrastructure of information and the last one the corporate portal that will serve the k-worker in his personal and corporative space.

The model, as a theoretical conception and frame of reference is materialized through the implementation of the Platform Suricata that answers to the environment of the knowledge worker.

As facilities that contribute in the development and implementation of the platform Suricata, there are some tools as:

1) The Suricata Model as a global proposal that is supported on three fundamentals levels - Knowledge architecture, Technology and Culture. Solutions are contemplated at both organizational and individual levels. This project is part of the Suricata model and it is being developed parallel to, and integrated with research in process-oriented management knowledge, architecture of information, metrics and onthologies.
2) Idesktop[4], an application based on Web, is completely modular and independent from the platform and with options for managing groups, projects and collaborative works. It has served as basement for the new PKM. It can be seen in figure 2.
3) Use of open source tools facilitates the integration and interoperability of applications. In this particular case, through the utilization of tools as: Linux, Apache, Mysql, PostgreSql.

The utilization of these facilitates is according to the new nature of the work and the relations with the knowledge worker on which the model acts. These relations can be seen in figure 3.

3 Personal Knowledge Management

In agreement with Pollard[9], PKM is a *"process-improvement and culture change discipline, and infrastructure-driven"*. PKM is a set of tools that consists principally of two layers: PCM(Personal Content Management) tools, which facilitate simpler, more powerfully, more intuitive and highly personalized applications for organizing and using one's own collection of information, contacts and links, and Social Networking Applications, which enable people to identify other people with specific expertise or shared interest and connect with them simply and powerfully.

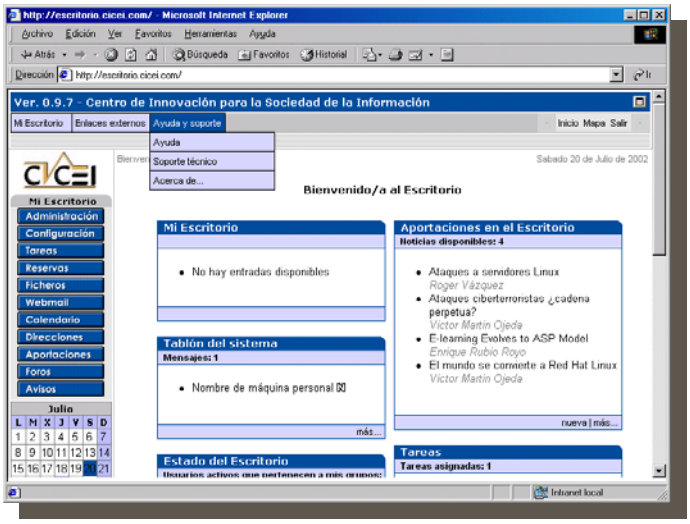

Figure 2 – Idesktop (collaborative desktop).

As, it can be seen in figure 1, the k-networking, e–Learning, Social networking and Knowledge Management is the preview level that develops the k-worker in personal and corporative spaces. The highest level corresponding to

corporative portal and is the interface between the worker and the model. Our concept for development of the PKM, is based on the next fundamental considerations:

- Recognition of the important concept of innovation in the use of adequate instruments in accordance with the skills, attitudes and aptitudes of the k-workers and his needs.

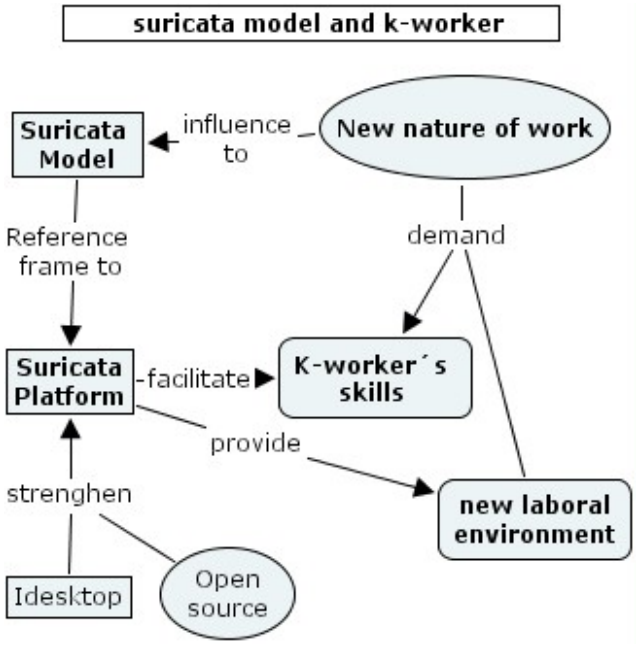

Figure 3 - Suricata model and k-worker

- The recognition of knowledge as a key resource to management level in the organizations (PKM)
- The Communities of Practice (CoPs) and Virtual Communities (CVs) are dynamic social forms of learning and of social life in addition to this they are agents of change for the solution of problems.
- The principal scheme to organize the work of the k-worker is the digital desk (digital dashboard).
- The social space has personal, professional and corporative dimensions.
- The digital space serves the social space and it is conceived as an ecosystem of knowledge (content, technology, processes, and knowledge).
- To support learning processes in the work place (the integration of learning - work).
- The social software is used as a dynamic element of communication, learning, and personal relationship.

4 Productivity

According to the classic definition, it is the ratio of inputs to outputs (P=I/O) but there are some considerations such as efficiency and effectiveness there are related to productivity. Efficiency is defined by the relationship between the inputs and outputs. Effectiveness, however, relates to the quality of the output. However, this is simple concept if there is considerate to work and k-worker nature.

Knowledge worker productivity is the biggest of the 21st-Century management challenges for companies that face the transition from the industrial economy to an economy based on information and knowledge [2]. To do the most productive knowledge work it needs a change of attitude as well in the worker and in the organization. The worker should change because he must assume his role as knowledge worker. And the company, because is responsible of providing the environment and the tools in order that the contributions of the worker could be generated and applied.

In reason to the importance of k-worker's productivity we think that there are some factors with a direct incidence in the knowledge worker productivity, now and the next decade (or as Druker say: Fifty years ago). This factors should be complemented in an adequate environment of work such: education, knowledge management, work in group, leadership, and ability for communicate.

Knowledge workers need to be continuously educated to stay ahead of rapidly changing economic and technological conditions. For productive knowledge workers, continuous education means intervals of formal and informal training and also acquiring new abilities and skills.

The essence of the knowledge management is to treat the intellectual resource as an active that can be managed. The intention is to distribute the intellectual capacity in the whole organization in order to let the knowledge flows in all the directions and specially to let it comes to the persons who take decisions. With this concept and the leading role of the knowledge worker in mind, it is understandable that a good knowledge management is directly associated to the improvement of the worker's productivity.

If we consider life's cycle of the knowledge (creation, modification, distribution), the communication of results is vital in the relationship between organization, worker and in the knowledge management. The knowledge worker should have ability to persuade, to form coalitions the between enterprises, to present new ideas, to get support, to write clearly and communicate and publish the ideas. Good ideas and well communicated increase the individual and corporative productivity.

5 Increase the k-worker productivity

There is a great need to evaluate the productivity of knowledge work and this need grows greater each year. It's a problem of great dimension to measure the productivity of the k-worker considering the changeable nature of the new context in which the worker is developed. If knowledge worker's productivity is to be improved, we need to understand the nature of knowledge work. Then we should begin analying what technological and organisational measures can be taken to improve it. For a better Understanding of Knowledge Work, we can analize Druker´s word: "*The invisible nature of knowledge work makes it difficult to organize and measure. Along with this, outcomes of knowledge work often unique*"[2]. Additionally the difficulty of measuring something that is not clearly defined has been noted. An expanded definition of work that includes a category for knowledge work is a first step in the evaluation of knowledge worker productivity

The increase of the knowledge worker's productivity is directly depending on the ability and personal skills, but also with the use of environments of work and suitable tools, as we expressed in previous items. For the fulfilment of this intention, we sustain the increase in the following factors:

- Added value of allowing people to make decisions for themselves is an important factor in the job satisfaction and then in knowledge worker productivity. This freedom for individual knowledge workers translates into much greater flexibility, creativity and innovation[3].
- Intensive use of ITs allows a expand information, decentralized decision making, reducing communication costs, improve the production and sharing knowledge.
- Use of tools as Weblog, syndication, wikis, PCM, email, instant messaging, etc. for increase the process of knowledge management (creation, modification, distribution).
- There has been considered the inclusion of planning tools, statistics and metrics as well as the management of the resource time as an important element of productivity
- One of the important characteristics of the k-worker is the permanent learning through the whole life. In consideration to it's necessary to propitiate learning processes in the working place.
- To integrate all tools and recourses in a digital dashboard can do the work more easily.

Finally, the CICEI, of the Las Palmas de Gran Canaria University, it is a centre of I+D+i and in our opinion suitable environment to verify the Suricata Model. The intensive use of information, the interest in generation of the knowledge and the particularity of the performance of every member of the centre, they are an excellent way where the knowledge worker is developed. The first experiences with the Suricata Platform, have allowed us to refine the model to approach the goal proposed of offering a PKM orientated to improve knowledge worker's productivity.

6 Conclusions

There is a new order in world labour environment that change work nature. The manual work has been replaced by a knowledge work in considerable proportions.

The organizations should offer to knowledge workers appropriate environments and adequate tools where the knowledge could be created, grow, and have free flow.

There are perceptions that knowledge work is unmeasurable and of little significance but an extensive review of the literature indicates that the possibility of measuring the productivity of knowledge work environments is acknowledged and is necessary more practical implementation. Additionally, more innovative measurement techniques are needed.

It is possible to design personal management knowledge for the k-worker in a personal and corporative dimension. Such a design can be implemented in an institution with high information capacity such as an I+D+i centre in order to improve the knowledge worker's personal productivity.

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