

## **Knowledge and Information Management by Individuals\***

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**Abstract:** The knowledge economy, globalisation, information technologies have an unquestionable influence on human information behaviour. In the competitive environment, individuals and organizations appreciate the important role of *personal knowledge and information*. My concept of knowledge and information management by individuals is based on among others two theories: Personal Information Management (PIM) and Personal Knowledge Management (PKM). They were, hitherto, subject of the separate studies. Nevertheless, according to the variety of definitions of PIM and PKM (cited in the article), these concepts are similar and compatible. It seems that we need the integrated approach to PIM and PKM which could be called *Personal Knowledge and Information Management* (PKIM). This concept is strongly connected with Information Literacy. Some of the empirical studies results in this subject are presented below.

**Keywords:** information management, knowledge management, personal knowledge, personal information, information literacy, information behaviour, knowledge behaviour.

### **1. Introduction**

Knowledge economy, globalisation, information technologies have an unquestionable influence on human information behaviour. In the competitive environment, individuals and organisations appreciate the importance of *personal knowledge and information*. At the turn of the 20<sup>th</sup> and the 21<sup>st</sup> century, two separate concepts connected with management of knowledge and information by individuals have emerged: Personal Information Management (PIM) and Personal Knowledge Management (PKM). The term *personal*

*information management* was used by Lansdale (1988) as a set of methods for information organisation in everyday activities. The term *personal knowledge management* was used for the first time as the name of the workshop for students in MBA programmes at UCLA Anderson School of Management; Frand and Hixson (1998) introduced it for helping students gain the information skills necessary to succeed in the emerging global business environment. Lately, two separate books about PIM and PKM, in spite of several dozens of articles, have been published (*Personal...*, 2007; *Personal...*, 2011). Recently the 5<sup>th</sup> PIM workshops (2012) has been announced; probably two PKM workshops (2009, 2010) have been organised up to this moment.

The fact is that these concepts are different, distinct, but they are compatible and interconnected as well – like the basic terms: *information* and *knowledge* (Świgoń, 2012, p. 21-37). Although we can define the term *knowledge*, we still cannot isolate knowledge at an operational level. My concept of knowledge and information management by individuals, which could be called **Personal Knowledge and Information Management** (PKIM) is based on: Personal Information Management (PIM), Personal Knowledge Management (PKM) and its parent Knowledge Management (KM), that stem from management science; and Information Literacy (IL), which is well known especially in library and information science. The theoretical basis of PKIM and empirical studies undertaken in Polish academic environment at the beginning of 2011 have been described in my new book (Świgoń, 2012). In this article some of the research results are presented.

## 2. PIM, PKM, IL – definitions and interconnections

**Personal Information Management** (PIM) refers to “both the practice and the study of the activities a person performs in order to acquire or create, store, organise, maintain, retrieve, use, and distribute the information needed to complete tasks (work-related or not) and fulfil various roles and responsibilities, for example, as parent, employee, friend, or community member” (*Personal...*, 2007). According to Jones (2008, 2010) there are two basic kinds of information management activity:

- keeping activities attempt to take us from information encountered to anticipated need;
- finding/refinding activities attempt to go in the other direction – from need to information.

Finding and keeping activities traverse the mapping in complementary directions. The group of *finding/refinding activities* includes explicit search queries as sent (posted) to a web-based search service or to a computer desktop-based search facility; various activities of sorting, browsing, and others that people use to get back to information for reaccess and reuse. This grouping includes activities to publish (in a journal), post (to a blog, wiki, or online forum), or send (via email or surface mail) information in an effort to meet one or more needs. The group of *keeping activities* includes decisions concerning whether to make any effort to keep information for an anticipated use and decisions and actions concerning how to keep the information (item of

information could be piled, filed, tagged or committed to memory)? There are four kinds of information management activity focus on the mapping itself, so-called meta-level activities or ‘m-level’ activities: 1) organising and maintaining; 2) managing privacy and the flow of information; 3) measuring and evaluating; and 4) making sense (Jones, 2008, 2010).

PIM is a growing area of interest as we all strive for better use of our limited personal resources of time, money, and energy, as well as greater workplace efficiency and productivity. Good research on the topic is being done in several disciplines, including human-computer interaction, database management, information retrieval, and artificial intelligence (PIM, 2012).

**Personal Knowledge Management (PKM)** is defined “broadly as an evolving set of understandings, skills and abilities that allows an individual to survive and prosper in complex and changing organizational and social environments” (*Personal...*, 2011). According to editors of this book, PKM, like its parent Knowledge Management (KM), is a concept that has grown out of a combination of fields as diverse as KM itself – personal information management, cognitive psychology, philosophy, management science, education, communications and many other disciplines (*Personal...*, 2011). Originally PKM workshop for MBA students was developed in close collaboration with reference librarians who provided support in a program of training skills that focused on organizing, retrieving and evaluating information. Dorsey (Tabor School of Business Millikin University, Decatur, Illinois) and colleagues (see Świgoń 2009, 2010) described the PKM as an educational framework for undergraduate education, in three different areas: as a stimulus for an improved sense of student responsibility; as a framework for integrating general education and majors; and as an approach to technology integration initiatives throughout the curriculum. They identified seven essential information skills: 1) retrieving information, 2) evaluating, 3) organizing, 4) collaborating around information, 5) analyzing, 6) presenting and 7) securing information.

Barth (2004) proposed, based on a framework originally developed by Dorsey, a modified list of seven skills: 1) accessing information and ideas; 2) evaluating; 3) organizing; 4) analyzing; 5) conveying; 6) collaborating around information and ideas and 7) securing information and ideas.

Moreover, other researchers have attempted to propose conceptual models of PKM (these models were described, summarised and critical analysed in abovementioned book Świgoń, 2012, p. 200-236; see also Świgoń, 2010, 2011).

There is a lot of definitions of **Information Literacy (IL)** (Basili, 2011). One can find them for example on the IL website (*Information...*, 2011), that has been designed and developed by information professionals from key UK organisations actively involved in the field of information literacy. One of these definitions stems from CILIP – the UK Chartered Institute of Library and Information Professionals: “information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner. This definition implies several skills. (...) The skills (or competencies) that are required to be information literate require an

understanding of: a need for information; the resources available; how to find information; the need to evaluate results; how to work with or exploit results; ethics and responsibility of use; how to communicate or share your findings; how to manage your findings.” SCOUNL – Society of College, National and University Libraries has a view of IL as a set of seven competency dimensions, built upon basic library and IT skills that constitute the foundation for them: 1) recognise information need; 2) distinguish ways of addressing gap; 3) construct strategies for locating; 4) locate and access; 5) compare and evaluate; 6) organise, apply and communicate and 7) synthesise and create.

Some authors have tried to find similarities between PKM and IL. Schreiber and Harbo (2004) attempted to compare a course called *personal knowledge management* with the definition of *information literacy* (IL as the ability to recognise information needs and to identify, evaluate and use information effectively). The PKM course was designed by faculty and librarians from the Aarhus Business School and the Royal School of Library and Information Science in Denmark. The intention of the course, which was offered as part of a MBA module, was to teach the participants how to manage information in such a way that it supports a learning process, and how to negotiate with colleagues about the information needs, locate the information, and mediate it in such a way that the colleagues will use it. The authors concluded that compared with IL, PKM highlights two elements: it emphasises that the individual learns how to structure the information and underlines the influences of the communication for the identification of information.

Recently the editors of the book about PKM have showed the relevant synergies (below in italics) between PKM and IL. They used the IL definition according to Dorner and Gorman (Gorman, Pauleen, *Personal...*, 2011, p. 11):

- To be aware of why, how and by whom information is created, communicated and controlled, and how it contributes to the *construction of knowledge*.
- To understand when information can be used to improve their daily living or to *contribute to the resolution of needs* related to specific situations, such as at work or school.
- To know how to locate information and to *critique its relevance and appropriateness* to their context.
- To understand how to *integrate relevant and appropriate information with what they already know to construct new knowledge* that increases their capacity to improve their daily living or to resolve needs related to specific situations that have arisen.

The editors added, that in practice the person who manages knowledge has to be *information literate*; and has to know not only PKM, but *knowledge management* (KM) in the organization context, as well. Such a person creates new knowledge through the information-seeking and knowledge acquisition process.

The aim of these three concepts is better functioning of individuals in the turbulent and competitive environments, in professional and everyday life too. They are based on set of skills and competences related to: accessing,

organizing, evaluating, communicating and creating new knowledge and information. Furthermore, all concepts are more human- than technology-centred (Świgoń, 2012). It is a fact that contemporary information skills are strongly related to information technology (computer literacy, media literacy etc.), but one must not forget that technology is only a tool. Such a tool is useful for sharing explicit knowledge, relatively easy to codify and transfer. Tacit knowledge and tacit information, which can be transferred through personal contact, discussion, experience and imitation, seem to be the major challenge in future research of PKM systems and PIM systems.

In the light of the abovementioned definitions and descriptions of skills and activities connected with PIM, PKM and IL, they are similar and it is very difficult in practice to differentiate between them. **Personal Knowledge and Information Management (PKIM)** is the proposed name of the integrated and humanistic approach to PIM, PKM and IL, with reference to explicit and tacit knowledge and information. Below the first part of author's empirical studies results undertaken in an academic environment is presented (Świgoń, 2012).

### **3. Personal Knowledge and Information Management (PKIM) – some empirical studies results**

The part of empirical studies described in this article (based on Świgoń, 2012, p. 279-286) asked the following main questions:

- What are the main definitions, dimensions and manifestations of *management of knowledge and information* through the eyes of individuals (students)?
- What is the difference between *knowledge management* and *information management* in the opinion of students?
- What is the role of knowledge and information management in studying?
- Which factors influence management of knowledge and information in students' opinion?

The respondents group consisted of 34 students of two specialties in the Faculty of Humanities in the University of Warmia and Mazury in Olsztyn (Poland): 17 Library and Information Studies (LIS) students and 17 Information Management Studies (IMS) students. They were asked to write their own opinions (unstructured questionnaire, qualitative method) about knowledge and information management in studying.

When the respondents tried to define *knowledge management* (KM) and *information management* (IM) they generally wrote about the connections between these terms, and they have used expressions like: *they are inseparable, they cannot exist without each other, one depends on another, they result from one another* (appeared in 17 descriptions). Students claimed that KM is something more than IM, it is a broader, overriding term. Some described KM as the next step after IM. The most representative examples are given below (the codified number of the respondent is in parentheses):

- *IM is gathering, storing, and retrieving information which we need to learn or work; which we can use more than once without re-retrieving.*

*KM is like “firming” our knowledge assets in order to improve the quality of our work and life. [IMS:1]*

- *Knowledge and information management is planning, organising, and controlling the flow of knowledge and information, but KM is a broader concept than IM. [IMS:2]*
- *The aim of KM is gathering, classifying, and using knowledge skilfully just in time. IM is only data gathering (e.g. files, pictures, music, videos). [IMS:12]*
- *KM is the next step after IM; firstly we have to find the information, process it and then transform into knowledge that we will use. [IMS:15]*
- *KM is using own knowledge in order to help other people. IM is just effective surfing on the web and being able to give instructions on how to find the needed information. [IMS:16]*
- *KM is sorting skills gathered throughout our lives and using this knowledge in variety of situations. IM is the way of data management which simplifies our work, and is logical and easy to learn and use. [LIS:17]*

Some of the students’ own KM and IM definitions illustrated the successive stages of information cycle, from acquisition, through sorting, to dissemination (found in 10 answers), which appear in abovementioned descriptions as well. Some students (2 respondents) compared the components of knowledge and information management to levels of education (from primary school to university), and this is one of the statements:

- *Actually, we create our personal knowledge base since childhood, we learn continuously throughout our lives. [IMS:3]*

The detailed analysis of differentiating between KM and IM showed two categories (cited most often, that is by 13 respondents):

- 1) IM comprises all accessible information (relevant, and non-relevant), whereas KM concerns only some information, selected, useful, reliable or recorded in memory [IMS:4,6; LIS:1,4,10,15];
- 2) KM is more connected to the scientific world, whereas IM – to everyday life and office work [IMS:10,14; LIS:1,8,10,12].

Other differences, noticed by single respondents, concerned: complexity of both concepts (KM is more complicated than IM [IMS:7]); scale (KM is related to individuals, whereas IM is related to institutions or people as mediators in dissemination of information [LIS:3]); or subject (IM is related to materials, documents, while KM – to skills [LIS:7]). Selected statements are cited below:

- *IM is the ability to cope with all the information that is reaching us. KM is the ability to use selected information in order to achieve our goals; it is a transformation of knowledge into information. [IMS:4]*
- *KM and IM are similar and closely related. IM is easier, because it demands from us only seeking or sorting skills. KM requires more effort, preparation, and training. [IMS:7]*
- *KM is related to intellectuals (living and dead) and their knowledge included in their works. IM is connected to the office work. [IMS:10]*

- *IM is the management of materials and documents. KM is about possessing skills, abilities, and acting without professional help. [IMS:7]*

It is worth highlighting that only one student [IMS:14] wrote that IM and KM are distinct disciplines or research areas, and explained that the former is connected with everyday life and the latter with science.

Some respondents described the differences not between KM and IM but between knowledge and information. Some examples are cited below:

- *Information is data, signal, or everything that reaches us, whereas knowledge is the verification of relevant information. [IMS:4]*
- *Information serves as knowledge substitute in communication. [IMS:2]*
- *Level of knowledge depends on quality and quantity of delivered information; knowledge generates information. [IMS:11]*
- *Information is contained in knowledge. When we acquire information, we gain knowledge as well. Having knowledge, we have information as well. [IMS:15]*
- *Knowledge is recorded in our memory, and ready to use and information is not – it is something that can be transferred. [LIS:1]*
- *Knowledge is a more general term, information is its external manifestation. [LIS:5]*

Almost all students' statements (26 of 34) mentioned a big role of knowledge and information management in studying, learning, preparing for classes and writing research theses (bachelor and master degrees). Some students (4) highlighted that such issues should be lectured in each field of studies at universities and even earlier – in high school. Remarkable insights were found in two statements cited below:

- *I think that knowledge and information management should be the integral part of the first year at bachelor studies. [IMS:14]*
- *I regret not learning about it in high school before school-leaving examination. [IMS:16]*

Moreover, many students (11) noticed that knowledge and information management is very useful in everyday life; in private and professional context. They pointed out the following benefits:

- faster access to information,
- assistance in problem solving,
- better coping with information overload,
- more effective selection of information,
- ability to verify and correct information,
- time, money and effort saving,
- productivity in mental area.
- *Without knowledge and information management we would not be able to study and function in group, society and culture. [IMS:2]*
- *Skilful management of personal knowledge and information in today's world influences our work, limits the loss of energy and time. [IMS:6]*

- *The test of our knowledge and information management skills will take place in our future work.* [IMS:7]
- *Knowledge and information management skills are helpful in running own businesses, fulfilling clients' needs.* [IMS:3]

Some respondents (4) wrote that knowledge and information management improves the functioning of individuals in the information society. Others (3) mentioned that there is not enough interest in this issue in our country, what is shown in this statement:

- *The society should demand knowledge and information management courses.* [IMS:14]

Students who have written about factor-influenced knowledge and information management did not differentiate between factors for KM and IM. The following were among supporting factors:

- adequate skills and competences gained on training courses;
- familiarity with information technology;
- unlimited access to the Internet, rich library collections;
- specialised literature on this subject;
- personality traits, e.g. accuracy, logical thinking;
- knowledge and information managers;
- access to knowledge and information in general;
- practice, cooperation, motivation, fluency in languages, and regularity.

Hindering factors included:

- information overload;
- lack of skills and competences, inefficient preparation in this scope, e.g. at university;
- lack of professionals;
- personality traits, e.g. being chaotic, careless;
- limited access to knowledge and information (copyrights, complicated library system, shortage of exemplars);
- false, unreliable, inaccurate information;
- lack of time;
- lack of financial support, software and hardware.

Abovementioned empirical studies results have proven that students, or more generally – individuals, perceive knowledge management and information management as an integral area – knowledge and information management. They intuit that there is a difference between the notion of knowledge and information but they have difficulties in differentiating between KM and IM. Students see knowledge and information management as the possession and development of specific skills and abilities useful in academic and private life. Many of them have written about skills, abilities, and competences connected with knowledge and information gathering, selecting, sorting and using; about skills useful in organising printed and electronic materials. In other words, respondents have written about Information Literacy without using this term. In the light of the literature review (Świgoń, 2012, p. 191-272) and these empirical studies results, three concepts: PIM, PKM and IL are strongly similar,



compatible and merged with each other. Personal Knowledge and Information Management (PKIM) as an integrated approach to the abovementioned concepts would be valuable in theory and practice.

#### 4. Conclusions

Because of the interdisciplinary and multidisciplinary character of PKIM concept and related research, they could be the contribution to the theory of some disciplines, e.g.:

- Information Science – due to an example of knowledge and information user studies as further step of information user studies; Zins (2006) suggested IS redefinition: from *Information Science* to *Knowledge Science*;
- Knowledge Management and Intellectual Capital – by highlighting an individual perspective of knowledge management; Cheong and Tsui (2010) proved that the roles of PKM are positively correlated to the values of PKM for individuals and organizations;
- Education – by emphasising of the role of information literacy, knowledge and information related skills and competences; Basili (2011) wrote about Culture of Information as a new emerging discipline.

PKIM is connected with the current discussion about the European Qualifications and Skills Framework in Poland and its Polish equivalent (*Krajowe Ramy Kwalifikacji*). PKIM could be the contribution to the practice, for example to the university education programmes. The author's empirical studies (the first part presented here) showed that PKIM is the most important set of skills and competences in an academic environment, in opinion of students, in the process of learning and studying. In the light of respondents' statements, knowledge and information management should be the obligatory part of curriculum in all university majors, and even earlier, for example in high schools.

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