Personal Information Management Literature Review

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I. Introduction

As discussed in the previous literature reviews on knowledge organization theory and research, the area of knowledge organization has evolved from a long tradition of standardization and uniformity within the library and information science community. Knowledge organization is still used in information institutions to assist with shared systems and patron access. Beyond these more formalized ways in which organization is examined are personal forms of organization that are practiced by people in their homes and office environments. The general study of these personal aspects of everyday document management is known as personal information management (PIM). While knowledge organization studies organization in cognitive or theoretical ways, the world of PIM researches organization in practical ways that give insight into how information organization affects individual human life.

This literature review examines research on organization that has been conducted in the field of personal information management (PIM). First, foundational PIM concepts are examined before moving on to a discussion of how organization is dealt with within the PIM domain. Next is a brief overview of PIM research methods and techniques, which is followed by a more in-depth examination of various PIM research conclusions about organization. This research is divided into 5 sections that cover the various ways in which organization has been discussed. This literature review concludes by introducing the concept of personal organization.

II. Definitions and Foundational Concepts of Personal Information Management (PIM)

The study of how individuals find and use the information they collect for both personal and professional reasons has been an area of focused study for information scientists. Libraries and
other information spaces have users with certain needs and trying to understand these needs has contributed to PIM becoming an active area of research. After understanding how users interact with information in environments like museums and libraries, how people use and interact with their own information in their personal workplaces and homes is now a more prominent area of study. This idea of an ‘individual’ or ‘unique’ way of finding, storing, and working with information in more private spaces is key to the study of personal information management.

The first use of the term “personal information management” (PIM) is attributed to Lansdale (1988). In this early PIM work, Lansdale (1988) defines personal information management as “the methods and procedures by which we handle, categorise (sic) and retrieve information on a day-to-day basis”. Lansdale (1988) was not the first to write about personal information management, even though he was the first to coin the term that is now used so widely today.

Overtime, the definition of PIM has become more extensive. One popular definition comes from Jones and Teevan (2007), they define PIM as

> both the practice and the study of the activities people perform to acquire, organize, maintain, retrieve, use, and control the distribution of information items such as documents (paper-based and digital), Web pages, and email messages for everyday use to complete tasks (work-related or not) and to fulfill a person's various roles[...]

This definition points out the mediums of PIM research, paper and digital; as well as, the activities that are performed during PIM: acquiring, organizing, maintaining, retrieving, use, and control; and how all inclusive PIM environments are, including work-related and personal situations. Researchers studying PIM include information scientists, psychologists, computer scientists, and lately, even domain knowledge experts, such as engineers (Lansdale, 1988; Jones, 2007b; Hicks, B.J., Dong, A., Palmer, R, & Mcalpine, H.C, 2008).
PIM examines the personal while also looking at the work related, but it should be noted that while PIM is personal, it is not private. Lansdale (1988) expresses this difference between personal and private by explaining, “this is personal information not necessarily in the sense that it is private, but that we have it for our own use”. This concept of “our own use” is central. It means that the work observed in PIM is not censored in ways that more public endeavors would be. It implies that the research done on PIM reveals something raw and untouched by consideration outside the individual. By adding in the idea of ‘personal work’ items, a new range of information can be included in what is studied in PIM.

Another foundational concept is that PIM extends beyond individuals working alone and occurs in group environments. The study of group information management, or GIM, is another popular area of study. The PIM of groups focuses on how collaborative environments manage their person information together (Erickson, 2006). GIM takes on a unique role in relation to personal spaces of information and personal information collections.

There are two terms used in describing an individual’s or group’s information environment: the personal space of information (PSI) and the personal information collection (PIC). A personal space of information (PSI) is a person’s entire information environment, including email, personal, and work-related documents, webpages, and references. A PSI can include anything a person currently researches or would want to research in the future (Jones, 2007b). Every individual has one personal space of information and this includes all the information items both physical and digital that person interacts with for pleasure and work. There are multiple personal information collections (PIC) within the personal space of information. Each personal information collection is like an island of specific information in the same format. For
example, email would be one PIC, while a file cabinet of papers would be another. While different, these two collections belong to a single PSI. Each PIC is self-contained where people control what information is added in and deleted from the collection. Also, “a PIC includes not only a set of information items but also their organizing representations, including spatial layout, properties, and containing folders.” (Jones and Teevan, 2007). PSIs are often too large and diverse to organize consistently, but PICs are much more manageable to put in order. Jones and Teevan (2007) suggest that when people say ‘I've got to organize “X”’—“X” being anything specific like email or a closet-- they are referring to a PIC.

Other important foundational concepts in PIM are about the classification of PIM activities. All PIM activities are actions—physical and observable. These actions exist both as an individual action and as one step in a chain or cycle of PIM events. Jones (2007a) breaks down the role of ongoing PIM research to include finding, keeping, and meta-level activities.

The research and discovery areas of finding and tool development make up a substantial body of work within PIM. Finding, the act of personal information retrieval, is one of the foci of PIM literature. Many PIM articles focus on how to create tools that will help people find and refind things in their offices and on their personal desktops. Finding can be broken down into the actions searching (or browsing), and the more formal information retrieval processes of recall and recognition.

Keeping, another part of the PIM process, has a smaller body of research than finding. Often likened to storage within an information system, people keep various files related to current and past projects. In personal information management systems, one often tries to retrieve the documents that were previously deemed important to keep.
Research in meta-level activities, those actions that encompass every other PIM activity outside of keeping and finding, make up the rest of PIM literature. These other activities include research in the topics of maintenance and organization, in addition to understanding and planning future use. Research in meta-level activities has shown that these activities happen only after a more pressing PIM activities have been completed (Jones, 2007a).

III. What is PIM organization?

Unlike knowledge organization, where organization is researched by studying physical actions, cognitive understanding, and theoretical implication, in comparison personal information management has limited research in the area of organization. This is not to say that organization is an unknown researched topic in PIM. Within PIM, there is a robust body of literature that researches organization as a physical activity that holds meaning relating to other PIM activities. While it is acknowledged that organizing maybe only one part of PIM that contributes to other activities, it is also acknowledged that looking at organization alone can also be beneficial.

Organization is a unique part of the personal information management process. As mentioned previously, organization is considered a meta-level activity. Some researchers claim that it is a “sporadic or seasonal” activity that does not occur every day and is often motivated by the need to do ‘spring cleaning’ (Whittaker and Sidner, 1996, Jones 2007a). Organization in PIM can be defined as those “decisions and actions relating to the selection and implementation of a scheme of information organization are collectively referred to as organizing activities” (Jones 2007a). Research on organization revolves around these activities and often looks at how people in the real world organize things in the physical or digital environment.
Some of the first PIM studies that consider organization, like those done by Malone (1983) and Lansdale (1988), look at the way individuals physically organized and from these studies were able to identify different categories of personal organization styles. The conclusion of these early studies showed that people’s organizational style could be categorized in one of two groups: either pilers or filers. Using the terms “messy’ for piling and “neat” for filing,

Malone (1983) was the first to analyze in depth the ways in which he had observed individuals organized their desks. In these early studies, filing was identified as more time consuming and error prone since it often involved using physical file folders and filing cabinets. This type of organization involves a great deal of thought and, like many PICs, has a consistent organizational scheme that can be hard to manage over time.

Piling, the other organizational action researched by Malone (1983) and Lansdale (1988), is identified as the easier, much faster method of organization. In the office environment, piling can be seen in piles left on desks and book shelves. Yet, research found that piling is not an arbitrary action and that there are reasons why individuals choose to pile. This research concluded that people pile documents because (1) they want to remind themselves to do something, (2) they cannot decide on how to label or categorize something, or (3) they are afraid that if they do file it, then it will become never be found again (Malone, 1983; Lansdale, 1988). While conducting his research in physical environments, Lansdale (1988) believed that PIM practices could change as new technology would demand different types of organizational needs. For instance, early PIM research that looked at workplaces would often cite “technology”, i.e. digital tools and interfaces, as a solution to the “piling issue”. Conclusions from these studies
also discussed the links between the way that people organized and the job that was being done (Malone, 1983; Lansdale, 1988).

As research moved from physical environments to the digital environments, the concepts of filing and piling remained within the literature. Barreau and Nardi (1995) and Jones (2007b) use these terms to describe what is happening in the management of digital objects found on personal electronic desktops. In digital environments, documents found in electronic folders arranged in a certain order or hierarchy are good examples of filing. Other research concluded that leaving emails in an inbox is an electronic equivalent to piles on a desk (Jones 2007a).

Piling and filing are terms used to identify “how” people organize and some research has tried to go one step further by looking at why they either pile or file. Lansdale (1988) starts this trend by suggesting that the act of piling or filing is influenced by a person’s job and explains how a person in a more procedural job is more likely to file, while those people in jobs where individuals are expected to multi-task would be more likely to pile. Whittaker and Sidner (1996) examination of piling and filing identifies three ways in which people organize: filers, pilers (referred to here as ‘non-filers’), and spring cleaners. Their use of this popular term is time based evaluations of organization, specifically, how people organize at the time of document creation or acquisition. But other research has concluded that the terms “piling” and “filing” may be too restrictive. According to Jones’ (2007a) research these classifications are not universal for everything within in a person’s personal information space. Depending on the item, one person may be a piler in one medium and a filer in another (Jones 2007a). Add in the time-based classification of “spring cleaning” to the mix, and one single personal information space becomes a complex, intriguing organizing environment.
IV. How PIM is researched

Research on PIM organizational practices has been taking place long before the term ‘PIM’ was even coined. In the knowledge organization environment the areas of subject and form are identified primary ways to classify, but in PIM these types of groupings are less important. Yet, one study conducted in the 1960s found these ways of organizing to be prevalent in PIM situations. Jahoda, Hutchens, and Galford’s (1968) research looks at how professors in science and engineering organize their documents into personal indexes. In this study personal indexes are “organized collections of documents and/or homemade references to documents that the researcher keeps in his office” (Jahoda, Hutchens, and Galford, 1968). The study focuses on the information items science professors collect, specifically those items that other people have written, like journal articles. He interviewed 75 academic faculty members at Florida State University and found that 46 use personal indexes while 29 do not. One area that this study looks at is how these indexes are physically arranged. Jahoda, Hutchens, and Galford’s (1968) study discovers that the most popular way scientists organize their indexes is by subject. Other popular organization methods include type of document (i.e. format) and author. Some findings from this study support many of the traditional PIM observations, for example, many scientists “considered the time devoted to prepare their index as excessive”—this relates to the idea of organization as being time consuming and not urgent-- and others complain of inconsistencies in indexing. Yet, Jahoda, Hutchens, and Galford’s (1968) research is telling, not only because of its focus on PIM organizational practices, but because this one study shows how PIM practices, at least those in the late 1960s, are similar to traditional knowledge organization methods used in libraries in the area of cataloging and classification.
It appears that since Jahoda, Hutchens, and Galford’s work in the 1960s, the way PIM is studied has changed. An overview of PIM organizational studies from a broad, historical perspective begins with early studies done by Cole (1982), Malone (1983), and Lansdale (1988), where research is conducted in the work/office environment and that look at peoples PIM activities in very physical, paper-only environments. The next phase of PIM researchers, like Barreau and Nardi (1995), see the challenges and opportunities that arise from a hybrid environment of paper and electronic. These studies were conducted when personal computers were becoming more commonplace within the document and research environment. It was the research from around the turn of the 21st century that acknowledges the power of personal information management in a digital-only world. Many publications from around this time period begin to focus less on the process of PIM, and more on the ideas of finding (as based on digital information retrieval concepts) and the core of PIM articles would be in exploring the trials and tribulations of PIM tool development.

The community is in a growing dialog about which way is the best to study PIM functions, including organization. Kelly (2006) believes that by studying PIM, “using one-size-fits-all evaluation methods and tools is likely to be a less than ideal strategy for studying something as seemingly idiosyncratic as PIM”. She goes on to express how only focusing on one type of PIM activity or one PIM tool “provides only a partial picture of what users want to accomplish and how they might accomplish it.” Jones (2007) disagrees with this method and, while agreeing that PIM is highly individualized, believes that the unique nature of PIM means that it must be studied by focusing on specific functional subareas.
PIM functions are often examined through close study of a specific environment—either email, electronic desktops, or even the way paper documents are stored (Barreau and Nardi, 1995; Whittaker, 2006; Hicks et al, 2008). Kelly (2006) discusses that “people should be observed in their natural environments at home, at work, and in between as they engage in PIM behavior in real time, recording both the process and the consequences of the behavior.” This method of close observation through naturalistic approaches involving fieldwork, ethnography, and small case studies have been expressed as ideal research methods (Kelly, 2006).

The act of organizing is often cited as one of the more difficult areas to research, because of its highly personal and individualistic nature (Barreau, 1995; Kelly, 2006; Elswiler and Ruthven, 2007; Jones, 2007a). Even with this challenge, many PIM researchers have successfully studied organization and assert it is a vital part in the personal information management process (Kwasnik, 1991; Barreau, 1995, 2008; Barreau and Nardi, 1995).

As mentioned previously, studies on organization in PIM have occurred since the 1960s, but flourish from the late 1980s to the late 1990s. These studies examine the importance of organization in paper-based and hybrid (paper and electronic) work environments (Cole, 1982; Malone, 1983; Barreau, 1995; Barreau and Nardi, 1995). Since hybrid working environments are still common today, this research contributes to developing new approaches to organizing in different types of environments. For example, Kwasnik (1989) researches the organization of documents to emphasize the importance of classifying and organizing in the academic work environment. This work continued into the 1990s, with studies being led both collaboratively and separately by Barreau and Nardi that looked at filing in electronic environments and the implications that these activities have. All of these studies, especially those done by Kwasnik, point out that organizing in PIM is more than just about retrieval, it is about context,

V. Classifying PIM research

The previous overview about what PIM studies have been conducted and the most productive way to conduct research within PIM lays the foundation of understanding this unique field. As opposed to knowledge organization, PIM research in the area of organization as a theoretical or more knowledge organization-based concept is still at an early stage while research on PIM organization as an activity or action has a rich history. Those researchers who have studied organization and organizing activities have come up with a variety of theories to explain why people organize and the function of organization.

As discussed previously, researchers have examined PIM in general, focusing mainly on retrieval and tool development, yet there are leading scholars, such as Malone, Kwasnik, and Barreau, who are the main contributors to the research and theoretical development on understanding the act of organizing within the realm of personal information management. These leading PIM organization scholars establish the three main ways in which PIM organization is studied as a “stand-alone” entity. This organization theory shows that organizing serves its own function (i.e. organization as a focal point and not assisting other activities) and is notable in the PIM process. Research examining the way individuals organize has shown that context, reminding, and visual presentation are ways in which organization has been shown to be critical even without being evaluated in the light of other PIM functions. This research highlights how crucial organization is within PIM and adds perspective on the body of research done about organization in this environment. Yet, other theories of organization indicates that the act of organizing only exists in order to assist with other PIM activities. These
interpretations have shown that organization gains importance through its relation to other PIM activities and has little individual worth beyond the scope of other PIM functions. Organization is often cited as helping the PIM activities of keeping and finding. Yet other research has concluded that organization is irrelevant to the PIM process.

The next section of this literature review will examine PIM research conclusions about organization. These research conclusions can be categorized in three ways: organization as a “stand alone” entity, organization as an assisting activity, and organization as unnecessary. The following section will begin by looking at the stand alone entity conclusions of context, reminding, and visual concept. Then explore the research area of organization as an assisting feature by reviewing the theories relating organization to keeping and finding. The last portion of this section will focus on the research that concludes that organization is unnecessary.

a. **Organization reflects context**

An essential area of research on organizing has been in the theory of context. Research surrounding the relationship between context and organization is an essential part of understanding people’s personal information spaces. Researchers, such as Barreau (1995), Kwasnik (1991), and Malone (1983), found that organizing in PIM depended on context. Their studies have shown that context “is the situation in which an event occurs” including “all aspects of a person’s experience” as well as being a “factor in human behavior” (Barreau, 1995).

In earlier paper-based studies, Malone’s (1983) findings show how well people organize based on the context of their offices—in this situation context determines organization. One of his conclusions is that the location of physical files often indicates the importance of those files
in a person’s personal space of information. Further studies confirmed that this type of organization is classification beyond document attributes—like those found in Jahoda’s studies. (Kwasnik, 1991). Similarly in a physical office environment, Kwasnik (1991) investigates how individuals organize and classify in their own work space. Her research findings suggest that context is continually at play when organizing within a personal space of information.

Additional research found that context has an affect on organization in both the physical and digital environment—revealing that context occurs in almost any personal information collection and is vital within a personal space of information. Barreau (1995) emphasizes that organizing can provide context to how the document was either created or acquired in the digital environment as well. Her study looks at what factors influence classification and has results similar to those found in Kwasnik’s study despite the difference in PIM medium. Barreau (1995) concludes from her research that, in information storage and retrieval systems’ “classification of work products and processes rarely fit neatly into document-specific categories such as subject and form”, the act of organizing allows a classification that reflects more than a typical knowledge organization system would typically contain (Barreau, 1995).

Context is a notable finding for PIM because it shows a distinction between what has been assumed in developing traditional knowledge organization systems (i.e. that subject and form are most important when making classifications) and the real organization processes that individuals undertake in day-to-day life situations. This illustrates how quantity and complexity have more influence in PIM organization--- a point that traditional knowledge organization systems often fail to acknowledge.
In many ways, context is like Dervin’s (1992) sensemaking. Both Spurgin (2006) and Jones (2007b) have made this link between sensemaking and context. In the discussion of his research, Jones (2007b) elaborates that “people often structure and organize information as part of a process to make sense of the information and to make sense of the situations where it will be used”. This perception of organization creates a form of classification that goes beyond traditional library approaches like “aboutness” and subject analysis. With context, research shows that organization serves a more practical function than what is recognized by knowledge organization specialists and adds a new layer of understanding about the importance of organization within in personal work environments.

b. Organization helps remind

The theory of organization as a reminding function of PIM is another notable contribution. In certain studies related to context, it has been found that the way documents are organized can remind users about tasks that need to be performed, as well as indicate the personal importance of documents (Cole, 1982; Malone, 1983; Barreau, 1995, 2008).

As with many areas of PIM, organization as reminding has been successfully studied and observed in both physical and digital information spaces. Research by Malone (1983) and later Barreau and Nardi (1995) determine that file placement serves an important reminding function, specifically when it is intentionally used as a way to remind people of things that need to be done. Malone (1983) concludes that “reminding is a subtle but very important aspect of desk organization”.

In physical environments, and then more prominently in digital environments, reminding has been studied as an organizational method used to assist in finding (Cole, 1982; Barreau, 1995, 2008). Though later sections of this piece will discuss the link between organization and finding in more depth, it is imperative to also acknowledge it in this section as well. Barreau’s (2006) research elaborates that in the digital environment, reminding is not only about finding or search, but about “triggering memory, managing tasks, and learning from experiences” because people forget where things are located. The concept of forgetting is key because forgetting is a human flaw that information systems cannot rely on without help from organizational tools. Research has found that organization as a reminding function, “helps us to make connections between things that we have forgotten are there, synthesize information from diverse sources, identify undesirable clutter, or remember why we have the files in the first place” (Barreau, 2006). Barreau’s point is telling because it shows how essential the action of organization is to the PIM environment as a whole, as well as, emphasizing the essence of organization beyond traditional keyword searching mechanisms. The reminding function of organization points out the connections that can be made between ideas—a very knowledge organization based concept that is found even in the area of PIM research.

Research has shown that organization is seen through spatial location on people’s desks and can be represented by size, location or color. While visual concepts and organization are presented later in this literature review, these visual characteristics help remind a person about important tasks. Reminding goes beyond physical space. Taking on a new importance in the digital environment, research that looks at tool design have concluded that organization is an important reminding tool in electronic interfaces as well. (Robertson et al, 1998).
c. Organization as a visual concept

Relating to the idea of reminding, another popular research area for organization is the idea that organization is a visual concept. As with research in reminding, the visual importance of organization has been successfully studied in both physical and digital environments. In the physical environment, Miller’s (1968) research shows that "people like to locate information spatially, and that fact tells us something important about the way man and information interact". Miller’s comment points to the essential link between organization and information—again establishing organization as an essential and singular part of the PIM process. Because of this, Miller (1968) argues that “the priority of space as an organizing principle is so compelling that we frequently take information that is really not spatial in character and give it a spatial representation just so we can think about it more clearly and remember it more accurately”. Miller’s argument takes organization beyond reminding in the realm of the visual. Miller’s (1968) argument asserts that organization as a spatial/visual concept represents clarity of subject as well as form, and calls to mind the studies of Jahoda, Hutchens, and Galford (1968) that also indicate the importance of subject and form within PIM organization situations.

Research about the visual importance of organization goes beyond the physical desk and has positioned itself onto the internet and personal desktop—items that are used everyday to perform PIM functions. In the digital environment, organization as a more visual concept is considered a tool for desktop design, tool development, and even web interfaces (Robertson et al, 1998). The way information is organized in a user interface can impact the effectiveness of web and electronic desktop tools. Research into organization as a visual concept goes beyond tool development and web interfaces. Visual organization is also employed in personal digital
desktops that are used everyday. For personal use, organization can be seen through folder creation and hierarchy (Jones, 2007b). How these folders are named, moved, renamed, and deleted are all part of understanding organization. These folders are arranged and maintained in certain ways so that they can be effectively used by the creator. Organization has an impact beyond the pure act of organizing and has become an essential part of everyday tasks in order to successfully use information and materials.

d. **Organization assists keeping and finding**

As previously mentioned Jones (2007b) study of personal information management broke down PIM activities into three areas: finding, keeping, and meta-level. Much of the discussion of organization in this literature review has focused on the meta-level activities concept of organizing. Yet, organization is not only studied as its own step in the PIM process, but as an assisting function that interacts with the keeping and finding activities as well.

In the area of keeping, organization is discussed in the context of file folders. Many researchers lump organizing with the act of maintaining—both keeping and organizing as maintenance activities. Research on organization as a function that assists in keeping activities began by looking at the workplace environment. Barreau’s (2008) research elaborates on three types of information found in the workplace that were originally introduced by Barreau and Nardi (1995). In this research, the three type of information are archived information, working information, and ephemeral information. Archived information is typically organized information. It is often a “completed work—a finished paper or project or report, for example that may be carefully labeled and placed in a folder or subdirectory” (Barreau 2008). This information is supposed to be kept for an extended period of time because it has long term value
and placing it in some type of organizational structure allows it to be maintained for a longer period of time. Archived information involves organizing for the purposes of historical record. It is organization for the sake of potential long term use.

Finding, refinding, and reminding are often linked concepts found in PIM studies (Jones, 2007b). Finding, also known as information retrieval, and its related functions are actions that are seen to benefit from organizing activities. The way in which organization is analyzed and studied in PIM revolves around research in finding, refinding, and reuse of information and, ultimately, data. There are two ways in which studies look at organization in relation to retrieval functions: finding and refinding.

Early research by Lansdale (1988) pointed out the recall and recognition efforts of organizing. Through the use of keywords and knowledge organization structures, organization assists with search. The other way in which organization is studied is mentioned earlier in the reminding portion of this piece. Reminding or remembering to look or find serves the function of organization as assisting refinding. According to Barreau (1995, 2006), “people organize information so that they can find it later”. Research on organization in the finding sense again characterizes the action as an afterthought, like spring cleaning. As an afterthought helping with finding and reuse, organization is still an essential part of any information system. Yet, even with these conclusions on organization’s value as both a singular meta-level activity and as an assisting function, some researchers in PIM have been known to downplay the significance of organizing actions (Elsweiler, Ruthven, and Jones, 2005; Whittaker, Bellotti, and Gwidka, 2006).
e. Organization is unnecessary

An unfortunate part of PIM literature and research is that for as many articles that try to point out how unique and important organization is, those same articles cite organization as being unused and unnecessary. Some theories put forward organization as a way of hindering PIM, specifically in the area of PIM tool development. Elsweiler, Ruthven, and Jones’ (2005) research on PIM tools has negative findings in regards to organization. The study concludes that the organizational methods used in tools and user interfaces of PIM force users to conform to hierarchical organizational schemes and therefore placing a burden on the user’s memory. Instead of hierarchical information structures, he demonstrates a use of tags as assisting PIM creating. Yet, Elsweiler, Ruthven, and Jones ignore the fact that tagging and folksonomy are organizing activities as well. This perception ignores the full scope of what can encompass an organizing action.

Other studies have indicated that in certain environments, like e-mail, the act of classifying or organizing documents is totally eliminated from the PIM process and not needed (Whittaker, Bellotti, and Gwidka, 2006). In an earlier article, Barreau and Nardi (1995) determine that schemes to organize and keep archival information are not used or relevant to many people. In these articles, search is cited as a process that excludes the need for organization of any kind.

PIM research has a history of mixed reactions to the act of organization-- there are both positive and negative ways in which organization is discussed and analyzed. For example, some scholars see organization as an essential part of the PIM process, while others discuss organization as easily dismissed or nonessential. Also, there seem to be many different justifications for why organization is needed and why organization is performed.
While other areas of information science research show organization as a way of thinking, or the way concepts are linked together, the world of PIM studies organization in practical, very physical ways. There are many concepts that make up personal information management that relate to organization. These concepts are essential to understanding how PIM is used and studied. Each of these conceptions of organization has been researched and studied by PIM scholars and adds to the picture of organization’s purpose within the PIM environment.

VI. Conclusion: An argument for personal organization

The personal information management (PIM) area of study gives a different perspective on the idea of organization. Unlike knowledge organization where organization is theoretical, physical and, at times, spiritual, organization in PIM is solidly grounded in the realm of actions and activity.

*Personal organization* is the way real people, as opposed to trained information professionals, organize within their own chosen environments. Personal organization is the term that will be used for the duration of this piece to discuss the act of organizing as presented in PIM. This new perspective on how real people organize their own things is an important consideration for the future of library and information science systems that try to appeal to a large community of diverse users. Studying personal organization has shown that people organize for a variety of reasons and are influenced by their environment and chosen medium, as well as subject and format. Most of the research looking at PIM has shown that organizing, either by itself or by helping other functions, is an essential part of information.

In the knowledge organization section of this literature review, a discussion of new conceptualizations of knowledge organization looks in depth at the definitions and theories of
organization that are currently at use within the sciences, interdisciplinary studies, and information science. While the idea of personal organization does not really challenge the notion of organization set forth by PIM research, personal organization does assert the idea of organization as being an entity unto itself that deserves study beyond the confines of finding, keeping, or PIM meta-level activities. The research areas of context, reminding, and visual presentation within the PIM research literature create an argument for personal organization to be considered more important. This concept needs to be explored outside of the PIM environment and be considered in relation to knowledge organization systems that are used in traditional library and information settings. Considering personal organization and researching its potential could be a positive direction for the field of information and library science.
Citations:


