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Personal Information Creation, Storage and Finding Behaviours of Faculty in Selected Universities in Ghana

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Abstract

The objectives of this study are to examine personal information creation and storage by faculty in selected universities in Ghana. The study also examined the factors associated with information finding/re-finding experiences of the faculty in their personal electronic and print information spaces and the influence of computer literacy in this regard. Data was collected from 235 faculty members of six universities in Ghana using a questionnaire. Faculty reported that they created personal information in an organised manner, and in comparison, with print, they created electronic information the most, and based on task at hand. Respondents strongly agreed that they found electronic information better when the information item is in a folder and has a content that relates to the folder name. They self-reported their computer literacy to be mainly intermediate level skill acquired mostly through workshops and personal efforts. The result shows a significant but marginal relationship between computer literacy and re-finding personal electronic information (df=1, B=0.238, p=0.001), but not finding/re-finding personal print information. Irrespective of demographic characteristics, strengthening computer literacy targeted at faculty will improve refinding of previously stored electronic information.

Keywords: Personal Information Management, Information Literacy, Computer Literacy, Information Re-Finding. Information Storage Re-Finding

Introduction

The major thrust of personal information management (PIM) is the concern about how people organise and keep the information they find useful, and how they find or re-find it when they need it. In the midst of this concern are a series of socio-technical and other issues that relate human behaviours to manage information that is kept for personal use. From the perspective of library and information science. Fourier's (2011) definition of PIM captures critical elements of interest in PIM:

> *…organising information so that it can be found again, metadata and tagging, choice of software, information literacy skills (e.g., identifying information needs, selecting appropriate sources to search, evaluating information, analysing and synthesising information), and putting information to use (Fourier 2011:550).*

How and where to keep information, whether on electronic devices, bookshelves or in the memory, and the socio-psychological issues that are involved in this activity are key in PIM concerns (Barreau

and Nardi 1995; Boardman and Sasse 2004; Jones 2007b; Jones 2007). These issues have occupied the interest of many researchers in different disciplines and aspects of human endeavour at different times.

Faculties are engaged in an information-dependent profession with high demands on performance and accountability. Faculty are avid creators and users of information; but there is evidence that, like many other professionals, they do not always discover the information they have stored when they need to meet their professional needs (Jones 2007; Eid 2014). Ideally, a well-managed information space provides faculty with pertinent information when they need it, thereby increasing their efficiency and efficacy and conceivably improving teaching quality. Sometimes the necessary information might not be found or might be found too late to be useful. At other times, faculty have access to information that is not of immediate use, and this useful information may be misplaced or forgotten before opportunities for their use and application arrive (Alman, Frey, Kearns and Tomer 2014). Also, faculty might be seeking for the information they need in the wrong place. The information is sometimes locked up in devices such as smart phones, PDAs, computers or other (Alman *et al* 2014). The information may be located on devices that are elsewhere or saved with a non-heuristic name or locked in an application, or in the wrong location, or a pass-worded location. Given the ubiquity of information in the electronic era, it might take less pain to create information, but it may be herculean to successfully locate it in the future for use.

Evidently the size of faculty personal information collection in print personal information spaces are often growing. Faculty living in low- and middle-income countries such as Ghana may have challenges managing their personal information; they are compelled by low level of automation to keep a large volume of print documents, in addition to electronic ones. Administrative chores, students' records, and official communications within and outside the universities, and others, are still mainly available on print versions. At the same time, faculty are compelled by the inevitable roles of modern information technologies to generate electronic information items which they store for use in the future. Struggling to keep and identify these information materials when needed will pose some challenges; electronic sources sometimes require some advanced knowledge of computer use while print sources will continue to consume spaces. Beyond computer skill and spaces, information literacy requirements for efficient management of personal information are ever expanding –existing software such as MS Windows are incorporating personal information management modules and new independent software are being produced regularly. These compete for the limited time of the faculty. Yet the tendency to generate and store information for possible future use cannot be bridled in the face of the avalanche of information which faculty discover from various parts of the world on daily basis.

The objectives of this study are to examine personal information creation by faculty in selected universities in Ghana, and the differences in storage of personal information in digital and print media. The study also examined the factors associated with information finding/re-finding experiences of faculty in their personal electronic and print information spaces. The study also examined the relationship between computer literacy level of faculty in Ghana and their information finding/re-finding experiences.

Literature Review

Personal Information Management

Personal information management has been defined as the processes and activities individuals employ to create, gather, store and retrieve information about the events and activities pertaining to their work function or for use at a later date (Jones 2007). Personal information is that information that can be considered belonging to or owned by an individual. What are the factors that individualise information and make them mine or yours, his or hers, or theirs or ours? Jones (2008) addressed this question. Information can be considered *mine* or personal because it is owned by *me*, for example the documents I created in my personal computer or the content of my portable phone(Campbell, Maglio, Cozzi and Dom 2004; Zhou *et al* 201). Information could also be mine because it is about me, for instance, my medical records or my employment records. Information that is directed towards me can also be described as mine; for instance, a survey

instrument sent to me. Information sent to me, experienced by me or relevant to me, are all in one sense or the other considered as mine. Managing these various categories of information influences positively or negatively the way we live and how capable we are to meet our needs.

Individuals perform a range of activities in order to acquire, keep, organise, maintain and retrieve information from their personal information collection (PIC) (Otopah and Dadzie 2013). This involves the process of acquiring, keeping, organising, maintaining and retrieving information from one's personal information collection (PIC) for everyday use. Based on an individual's information need, a person acquires information from various information sources. This information may be used immediately or kept for use at a future date. This keeping function requires that the information is organised in an orderly manner in order to facilitate easy retrieval. The organisation of information materials requires some mental effort in terms of properly naming documents and keeping them in appropriate files and folders in order to facilitate the retrieval process. Once information is acquired, organised and maintained, the individual will easily retrieve information from his personal information collection. The processes applied in the management of personal information are crucial since these processes are subjective to the individual involved. Also, information must be retrieved at the right time, in the right quantity and in the right quality in order to be valuable to the individual.

Mostly, personal information is created for an immediate need and as such created in a rush which often results in vague and ambiguous meanings and names (Lutters *et al*2002and Zhou *et al*2012). For instance, an individual may create a document on a desktop and tag it with a name which may not really reflect the content of the document. Personal information materials are created very often and are considered ephemeral since they do not have a lasting or permanent storage. Barreau and Nardi (1995) mention that, ephemerals are information documents that have short shelf life such as 'to do' lists, note pads, memos, calendars, and news articles downloaded from databases as compared to archived information which is information that has a shelf life of months or years which may not be directly related to the current work of the individual.

PIM and Information Creation, Information Storing/Keeping and Information Refinding

Information Creation

Information creation focuses on how and why people are socialised to create information in various contexts in everyday life or in the working world (Trace 2007). The processes of information creation have shifted from the use of traditional tools and ways such as relying solely on books and other print information sources to the use of more sophisticated tools and methods such as the use of the internet. Nwezeh (2010) mentions that this change in the processes of information creation has been engineered by the ICT revolution which has brought about a wide range of sources from which information can be obtained.

Jefferies and Hussain (1998:359) found that in this Internet age, channels of obtaining information are a mixture of modern and traditional ways as well as formal and informal methods. Faculty members are now able to obtain a wide range of information from the Internet, most especially the World Wide Web (WWW) other than their reliance on print information sources most of which were chained to tables in the monumental libraries of the past. Faculties perceive that the Web provides current information which neither they nor their students can afford to omit or ignore; hence their increased use of information on the internet (Jefferies and Hussain 1998:359).

In creating information, faculty collect information from a wide range of sources; from print sources such as textbooks to the use of electronic sources such as educational digital libraries, search engines, listservs, databases, discussion forums, blogs and wikis (Diekema and Olsen 2014). Faculties also patronise open access information for the creation of their information for teaching and research purposes. In creating study content, faculties are able to produce and edit multimedia communication related material, as well as to provide virtual worlds for an increasing variety of collaborative learning environments (Jefferies and Hussain 1998). Nwezeh (2010) revealed that majority of academic staff in Nigeria use the Internet regularly to access content for their teaching and research purposes due to the enormous amount of resources available on the Internet.

Information Storage

Once an individual comes across a piece of information, its relevance is assessed, and the information stored appropriately for immediate use or stored to be used in the future. The information is organised and usually stored or kept appropriately to allow for easy retrieval or re-finding at a later date. Enakrire and Baro (2011) suggest that information is a resource that requires careful handling so that the right type of information gets to the right user at the right time and at minimum cost. (Fridman 2016) mentions that storing/keeping looks at the processes employed in keeping information for easy retrieval and re-finding at a later date. To store information, one must first of all decide whether the information at hand should be saved in the first place and then looks out for ways to store it so that the individual can remember they stored it, know why they stored it, and what it was that was stored (Fridman 2016). Information storage practices range between the use of traditional storages processes and devices to the use of electronic storage devices.

Information storage involves the process of keeping information to be used at a later date (Bergman 2013). Storage processes employed by individuals can influence PIM positively or negatively. Bergman (2013)identifies redundancy as a factor that can hinder the storage behaviour. Redundancy occurs in situations where previous versions of the same documents are kept. This mostly occurs when documents are updated but older versions are not deleted from the computer. This later creates problem when the current version of the document is being retrieved. Redundancy also occurs when the same information is stored on different computers for instance at home and at work. Finally, overestimating the need for files and information in the future and not actively deleting files that are no longer relevant from one's PIC may lead to redundancy.

In storing information, Enakrire and Baro (2011) identified different storage devices, mentioning primary storage devices such as a computer's main memory (RAM) which is volatile and the secondary storage device such as magnetic tapes, magnetic disks, among others. Electronic storage devices are becoming substitutes for traditional ways of storing information such that people do not only store information on secondary storage devices but also on external devices such as pen-drives, memory card, external hard drives among others which are easy to move about.

A study by Franco and Mariano (2014) concluded that when information is not stored in a single place or on a single device, it makes retrieval difficult since the information is split in several locations. This situation is also confirmed by Bergman (2013) in a study which revealed that individuals had several versions of their information on different devices (such as keeping a version of the same information on an office computer and another version on a computer at home) resulting in redundancy thereby making it difficult for the individual to retrieve information quickly.

Information Re-Finding

Information re-finding is the process of locating and retrieving information one has deliberately kept in his/her personal information collection (Özmen 2015; Bergman 2013).The abundance of information today has shifted the monetary cost of information from its accessibility to its retrieval. The amount of attention and time required to store and retrieve information is the price one pays for the information (Özmen 2015). The cost of information increases with the time and effort spent in retrieving the information. When information is properly organised and stored, it takes relatively less time and effort to retrieve. A user's time spent in organising information for storage determines which information is retrieved and how much of it is processed. Bergman (2013:467) mentions that the more time an individual spends in organising his/her information for storage, the less time he/she will require in retrieving that information at a later date.

Özmen (2015) believes that there is a link between the attention an individual pays in organising their information for storage and its retrieval. Özmen calls this cognitive psychology. In the same vein, Bergman (2013) mentions the positive effect of cognitive effort used in the organisation of information on information retrieval. To him, an individual who spends time and cognitive effort to keep his personal information is "ordered" while one who does not spend some time in organising his information as "disordered." To be ordered, an individual will have

to spent time giving meaningful names to their information materials so as to reflect the true content of the information. Doing so, one avoids the use of redundant names which may have no bearing with the content of the information material. A study by Bergman (2013:467) revealed that the use of meaningful names has an influence on retrieval time such that if meaningful names are used, retrieval time is minimal. Various retrieval methods are applied by individuals during the retrieval process. In an experiment to support the information seeking and retrieval need of graduate students in two major Taiwanese Universities, Wu (2011) identified various information retrieval procedures applied by the students.

The use of the keyword search method is the primary information retrieval mechanism. The use of the keyword search in retrieving documents requires the individual to enter keywords that represent the information being sought. This at most could be the name used in naming the folder or file. An individual who spends time ordering his files and folders before storage will be able to retrieve his information quickly as compared to an individual who did not. One who does not organise his information properly will have to keep modifying the search query and keyword until the information material is located thereby increasing the time spent in retrieving the information and increasing the cost of the information as well (Wu 2011). Also, Elsweiler *et al* (2007) mentions the browse-based system of information retrieval which enables the individual to look through information objects to find the objects they want. "Browsing systems either show users all the objects available, limiting the approach to relatively small data sets, or force a classification on the objects such as colour distribution for images."

Finding/re-finding identifies the lookup task, item task and multi-item task that need to be applied to locate information and also mentions direct access, browsing and hybrid retrieval options to be carried out for the retrieval of information once it is stored in the Personal Space of Information. Lastly, information retrieval deals with the processes through which the information retrieved from the PIC is distributed. From this theory, the strategies employed by faculty members in the management of their digital and paper-based information will be assess-based using storing/keeping, organisation and maintenance and finding/re-finding and information dissemination as the independent variables.

Challenges of PIM

Researchers have over the years identified a number of challenges with PIM. Elsweiler *et al* (2007:926) mentions the challenges of PIM to include problems of psychology, problems with classification, recognition and recollection. Cognitive difficulty in classification is the difficulty of deciding how to classify something which can be an important barrier to filing the information, hence individuals will prefer to pile their information rather than organise them into files (Malone 1983; Elsweiler et al 2007). This difficulty often leads to the use of meaningless, and idiosyncratic names. Idiosyncratic names are not meaningless names but are names that are most often only understood by the owner of the information and not easilyunderstood by an external observer (Bergman 2013). The use of meaningless names, however, requires more energy and cognitive effort and slows down the retrieval process.

Also, a poor recollection of contents or keywords of files and folders stored over time as one's PIC content increases in scope and complexity creates problems for information retrieval (Fuller, Kelly and Jones 1945). Fuller mentions the three memory problems people experience as transience, absent-mindedness and blocking. To him, transience is the gradual loss of memory which occurs over time. For instance, being unable to accurately recollect the details of your 17th birthday celebrations. Absent-mindedness, which is the condition of being so lost in solitary thought as to be unaware of one's surroundings. To him, "this becomes a sin when one is unable to direct attention to the things that will be needed to be remembered later, or if one encoded relevant things on a level that is too shallow for long-term retention." Mentioning for example; "daydreaming in lectures, not paying attention to where one puts one's keys." Finally, "blocking, which is failure to retrieve or access deeply encoded information when one's memories are temporarily unavailable."

Methodology

This paper is the third in a series developed from a completed thesis titled "Personal information management behaviour of faculty in higher education institutions in Ghana" submitted to the University of South Africa, Pretoria. The detail of the research methods has been presented in the thesis as well as in a previous paper from the thesis (Donkor and Nwagwu, 2019). It is necessary, however, to inform that a sample survey research design guided the research and quantitative data were collected from 235 faculty members of six universities in Ghana. Qualitative data was collected using an interview schedule from 18 willing faculty members. The universities were University of Ghana Lagon; Kwame Nkrumah University of Science, and Technology, Kumasi; University of Education, Winneba; University of Professional Studies, Accra; Valley View University and Central University College.

The respondents were selected by accidental sampling. The researcher visited the institutions and solicited for the participation of any faculty members that were available, and the instrument was administered to them. Although the sampling technique did not give faculty population in the six universities equal chances of participating in the study, the sample size of 235 that returned the questionnaire could be considered large enough for statistical inferencing. This report contains only aspects of the quantitative and qualitative data that addressed size of PIM collection of faculty, re-finding information in their electronic and print information spaces, computer literacy, perceived challenges of PIM and their self-assessment of their computer literacy with respect to PIM. The dependent and independent variables in this study are nominal in their forms. Using the Recode command in SPSS, the individual categories were converted to dichotomous forms, thus permitting inferential analysis.

Results

Information Creation

The first issue addressed in this paper is the faculty perception of the way and manner in which they created personal information. The paper also examined whether the information created is for tasks at hand, ephemeral/temporary, information that has archival value or information that is required for a task at hand.

Figure 1 shows that a little less than half of the respondents 111(47.2%) reported that they created their information in an organized manner, while far less than this number 42 (17.9%) created their personal information in a somewhat organised

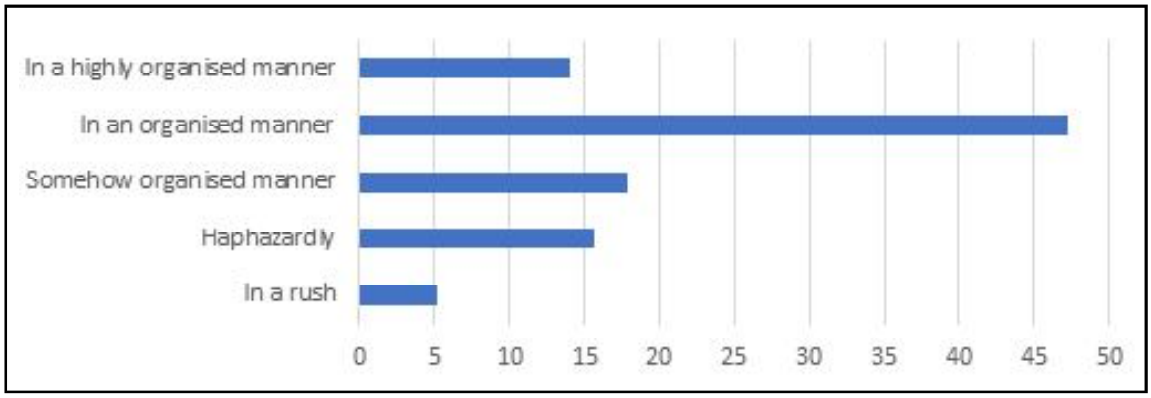

Figure 1:

manner. Those who created their information in a haphazard manner constituted 15.7% or 37 while those who considered themselves highly organised in their PIM creation were 33 (14%). Finally, 5.1% or 12 persons reported that they created their personal information in a rush.

Paired samples T-test was adopted to examine faculty perception about which type of information, print versus electronic, they create the most. The analysis shows a not significant (p=0.065) and negative correlation coefficient (-0.121). Table 1 shows a negative mean value as well as negative confidence intervals and t-value, supporting a significant difference in the frequency of use of the two media.

Table 1: Correlated t-test of the difference in print versus digital personal information creation

		Correlated samples Differences					T	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Information is created mostly in print **vs** Information is created mostly in digital format	-1.33	2.070	0.135	-1.602	-1.070	-9.896	234	0.000

Table 2 shows that the mean of "Information is created mostly in digital format" (3.78) is higher than that of "Information is created/generated mostly in print" (2.45).

Table 2: Correlated Samples Statistics of print versus digital use in personal information creation

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Information is created mostly in print	2.447	235	1.502	0.098
	Information is created mostly in digital format	3.783	235	1.254	0.082

Table 3 relates to key reasons for faculty creation of personal information. The four variables are significant explanations for creating personal information but the highest mean refers to Information is created/collected based on a task at hand (4191), followed by information that is of

Table 3: Correlated samples t-test for reasons for creating personal information

					95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Information is created/collected based on a task at hand	88.131	234	0.000	4.191	4.098	4.285
I create information that is of work value to me	52.622	234	0.000	3.698	3.559	3.833
I create information that is ephemeral or temporal in value	37.704	234	0.000	2.698	2.557	2.839
I create archival information	28.654	234	0.000	2.694	2.508	2.879

immediate value (3.698), while information that is of archival value and information that ephemeral in value has equal weight (2.698).

Finding/Re-Finding Information in Personal Print Information Spaces

When respondents were to state their experiences in retrieving print files, the responses of faculty to assertions about "Regarding spending minutes to find stored files", 38.9% strongly agreed with that experience while 20.6% merely agreed. Only 12.8% and 7.3% respectively disagreed and strongly disagreed with the experience while 20.4% were neutral. "On spending hours", 26.8% strongly agreed, 14.5% agreed, 15.7% were neutral while 28.1% and 14.9% respectively disagreed and strongly disagreed. Lesser number of people 21.5%) strongly agreed with "spending days to retrieve saved files", much lesser (6.4%) agreed and 132% were neutral. A rather large proportion 39.8% disagreed while 19.1% strongly disagreed. The response pattern changed in respect of "retrieving information items with ease" where only 9.4% strongly agreed and 10.4% agreed; 39.6 disagreed while 20.2 strongly disagreed.

Computer Literacy Skills

Figure 2 shows that majority 167(71.1%) of the respondents had intermediate computer literacy skills while 53(22.6%) had advanced computer literacy skills and 15(6.4%) were beginners.

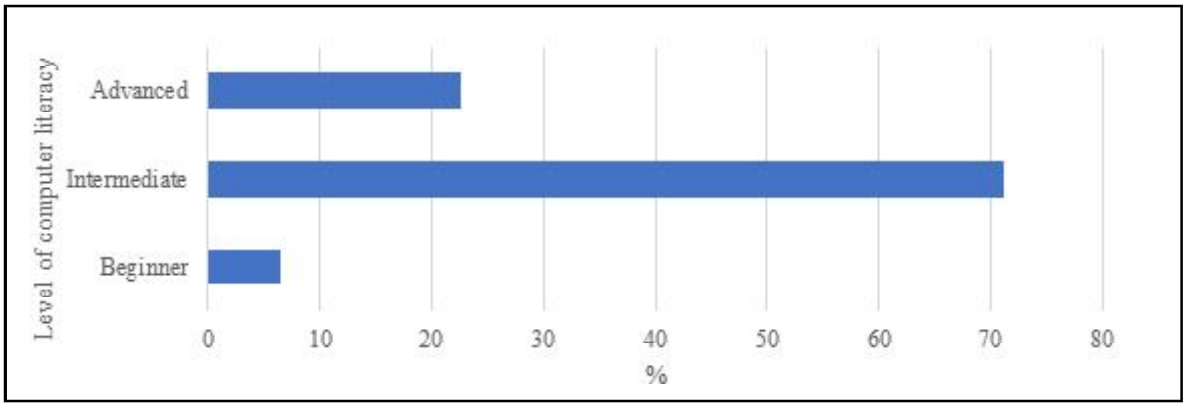

Figure 2: Self assessment of computer literacy

How computing skills were acquired

As evident in Table 5 majority of the respondents 96 (40.9%) acquired their computing skills from workshops/seminars/conferences, while 69 (29.4%) acquired their skills personally. Through formal education, 35 (14.9%) of the respondents acquired their computing skills.

Table 5: How computing skills were acquired

	Frequency	Percent
Workshops/seminars/conferences	96	40.9
Personally	69	29.4
Formal education	35	14.9
Formal education, workshops/seminars/conferences and personally	13	5.5
Workshops/seminars/conferences and personally	9	3.8
Formal education and personally	8	3.4
Formal education and workshops/seminars/conferences	5	2.1
Total	**235**	**100.0**

Thirteen (5.5%) acquired their computing skills through formal education, workshop/seminars/ conferences and personally, 9 (3.8%) through workshops/seminars/conferences and personally while 5 (2.1%) acquired their computing skills through formal education and workshops/seminars/ conferences.

Does Computer Literacy explain Finding/Re-Finding Information in Personal Electronic Information Spaces?

The relationship between computer literacy and finding/re-finding information in personal electronic information spaces by faculty was investigated. We computed up the 12 variables that guided data collection on finding/re-finding information in personal electronic information spaces to achieve a scale variable.

Table 6: ANOVA of computer literacy and finding/re-finding information in personal electronic information spaces

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.479	1	3.479	11.744	0.001[a]
	Residual	69.015	233	0.296		
	Total	72.494	234			
a. Predictors: (Constant), Level of computer literacy skills						
b. Dependent Variable: Re-finding electronic information						

Table 6 shows that there is a significant variation between computer literacy and finding/re-finding information in personal electronic information spaces. The *F* statistic is 11.744, the distribution is *F* (1, 11.744), and the probability of observing a value that is greater than or equal to 11.44 is less than 0.001. There is strong evidence that B_1 is not equal to zero.

Table 7: Correlation Coefficients of the regression between computer literacy and finding/ re-finding information in personal electronic information spaces

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.646	0.155		17.062	0.000
	Level of computer literacy skills	0.238	0.070	0.219	3.427	0.001
a. Dependent Variable: Re-finding electronic information						

Table 7 shows that there is a significant relationship between level of computer literacy and finding/re-finding information in personal electronic information spaces (df=1, B=0.238, p=0.001).

Does Computer Literacy Explain Finding/Re-Finding Information in Personal Print Information Spaces?

In the ANOVA in table 8, the *F* statistic is 1.811. The distribution is *F* (1, 1.811), and the probability of a value greater than or equal to 1.811 is greater than 0.05. Therefore, there is very strong evidence that B is equal to zero.

Table 8: ANOVA of computer literacy explain finding/re-finding information in personal print information spaces

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.061	1	1.061	1.811	0.180
	Residual	136.505	233	0.586		
	Total	137.566	234			
a. Predictors: (Constant), Level of computer literacy skills						
b. Dependent Variable: Re-finding print information						

Table 9 shows that level of computer literacy does not explain finding/re-finding information in personal print information spaces by faculty.

Table 9: Coefficients of the regression between computer literacy and finding/re-finding information in personal print information spaces

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.294	0.218		10.516	0.000
	Level of computer literacy skills	0.132	0.098	0.088	1.346	0.180
a. Dependent Variable: Re-finding print information						

Table 9 shows that df=1, B=0.088, p=0.180), confirming that computer literacy does not predict finding/re-finding information in personal print information spaces by faculty.

Discussion of Findings

The objectives of this study are to examine personal information creation and storage by faculty in selected universities in Ghana. The study also examined the factors associated with information finding/re-finding experiences of the faculty in their personal electronic and print information spaces and the influence of computer literacy in this regard. Generating information is easy, particularly in the modern digital world. Keeping the information in such a way that it can be found is not as easy, but being able to find and re-find the information when it is needed is a more difficult task, and an old challenge. This study was designed to examine creation and storage of personal information in digital and print media. The study also examined information finding/re-finding experiences of the faculty as well as the relationship between computer literacy level and their information finding/re-finding experiences.

Many of the faculty create information in an organised manner; this is understood to mean that they take their time to identify, and search for a piece of information, and then take further time to confirm that the information item is exactly what they need before they save it. Some of the respondents corroborated this in their interviews:

'For instance, in conducting research, I search for information from Google scholar and seek for free articles. The information retrieved is stored in a folder for reading purposes. I prefer information in journals to books. I make use of keyword searches and Boolean operators when searching for information (Valley View University -VVU)'.

'Most of the information I create is based on decisions from committee meetings, policy documents among others. I also gather information is from the internet. Most of the information I create is in the form of papers, proposals, memos, minutes of meetings, etc. For my lecture notes, I search for information from the internet and also from textbooks (Kwame Nkrumah University of Science and Technology-KNUST)'.

'As part of my duties, I have a number of staff who assist me in the creation of information. Information is created as and when students request for them. For instance, student's records, transcripts and verification of certificates are done based on the needs of the institution with new additions added as and when necessary. I personally search for information for writing my articles and lectures. I use the Internet a lot in creating information (University of Professional Studies, Accra- UPSA)'.

'I create a lot of information to support my work as a lecturer. I do a lot of writing too and I use the Internet a lot. I search for information from the internet, textbooks and journals. I keep the information created on my desktop and sometimes on my laptop (UG)'. University of Ghana

These responses support that information creation is mainly deliberate and task-oriented, arising from researching, administrative responsibilities and teaching and other responsibilities. The analysis also shows that the information they create is predominantly digital in form. Without any doubts, the digital technology has made information creation *which* easier than before. These findings are in consonance with previous findings on PIM.

Faculty personal information was created mainly to address tasks that are at hand. They do not just engage on information search, but are guided by what they are currently doing. Evidently the task at hand could be work, and which may require ephemeral information, or require information that could be stored for future re-use. Faculty retrieve stores information much better when the information item in a certain folder has a content that relates to the folder name. Remembering an attribute of the file also helps in retrieving information that has been stored.

The interviews shed more light on the issues, highlighting how and where the files were usually saved:

'I make use of cloud computing in storing my information so that I can assess them wherever I am. I also have drop-box on all devices for the transfer of information. My hard drive is always at hand and always on the go. I keep the hard drive at home and update it regularly as a back-up. When traveling I back-up my hard-drive in case of emergencies. Less relevant information is kept on an external hard-drive. I'm able to link with other folders in search of information. My folders are arranged in hierarchies and are very well organized. I work in drop box and since it's on all my devices, I am able to transfer, share and synchronize information easily. In disseminating information, I use electronic means and use the hard copy as a support. I use the module to teach and so all the information materials are online for students to access. I use IPAD in teaching, I also use power point. I use Bookmarks for saving important websites. My open browsers have book marks for some of them. I also add to them to my 'favourite' using the star so that I can go back to them easily' (VVU).

The responses of other interviewees also shed further light.

'When sharing information, I send it through e-mails. I sometimes send information to my mail so I can assess it and sometimes I also store information on pen-drives (UPSA). When duties need to be completed, I send them home on the external drive to work on the laptop'.

Majority of the faculty assessed their computer literacy skills as intermediate. But in the interviews, the faculty seemed to consider this level of skill as adequate for their task, and also reported performing

well in using the computer for tasks. It was found that computer literacy explained finding and re-finding electronic information, but this was not the case in finding and re-finding print information.

'I have adequate computer literacy skills to manage my electronic information. I create folders in which I arrange my information for storage. In every folder, I have sub-folders too. These folders are named and I write down the names of the folders in my diary. I even keep all my wife's important electronic documents for her too. I have created a folder where I keep hers' (VVU).

'My knowledge in computer literacy skills is adequate to help me manage my electronic information. I will say, I have an intermediate level of computer literacy skills.'

'I am able to search for and retrieve information on the internet, type, save and re-find information. I mostly use the default saving component on the computer (MyDocuments) to saving my electronic information. I do not use folders in storing my information. I keep them on my desktop for easy identification' (UPSA1).

'I am able to organise my information with the computer skills I have. I also seek help from the IT technicians in my department whenever I face any difficulties. I organise and store my electronic information in folders (KNUST)'.

Faculty acquired their computer literacy through a variety of ways. While the questionnaire indicated that majority got their skills through workshops, the interview balances this opinion.

'I acquired it personally through my continuous use of the computer during my PhD programme. I have also had a few on the job training to support my work. I also seek for help from the IT Support Unit when needed. Training is personal, there is no formal training workshop provided yet. I'm learning to use excel, power point effectively also and so I rely on the help of my IT support staff' (UPSA).

'I have not had any formal IT training. I sometimes call on my IT staff to teach me to do the things I can't do, thereby learning to do them. Computer literacy training are organised for faculty occasionally, a few of which I have attended. When the University was introducing its e-platform for distance education, several training programmes were organised and I attended one of them' (KNUST).

Conclusion and Recommendations

Majority of the respondents did not re-find their stored information, both electronic and print. But they refound electronic more than they did print. Factors affecting successful retrieval of stored electronic information go beyond computer literacy. There may be several social and other issues that impact negatively on the ability of faculty to find the information they consciously stored some time ago. A major and critical issue emerging from the interviews is the need to move from computer literacy to broader information literacy, and include all digital and print productivity tools that a researcher would need to manage his or her personal information efficiently. There is need to step down the complex content of indexing and classification taught in the library schools and move some of the aspects that deal with the individual researcher's needs to information literacy content. There is a need to emphasise issues that help identify content, decide what to keep and what to discard, and how to preserve the information considered relevant in the future. Faculty need to learn how to create easy-to use directory structures, and be consistent in the naming of their files, create folders, and name them in such a way that they can be retrieved in the future. Backing up files in the cloud, using Dropbox, Google docs, bookmarking, and favorites, among others, should be considered very important tools in the effort to ameliorate the events of non-access to stored information. Faculty in Ghanaian universities need to learn how to create alerts such as news aggregators, content alerts, database alerts, table of content alerts, among others (Donkor and Nwagwu 2021). In this way they can schedule information use/re-use for items they created or generated without struggling to recall file and folder names.

These responses support that information creation is mainly deliberate and task-oriented, arising from researching, administrative responsibilities and teaching and other responsibilities. The analysis also shows that the information they create is predominantly digital in form. Without any doubts, the digital technology has made information creation *which* easier than before. These findings are in consonance with previous findings on PIM.

Faculty personal information was created mainly to address tasks that are at hand. They do

not just engage on information search, but are guided by what they are currently doing. Evidently the task at hand could be work, and which may require ephemeral information, or require information that could be stored for future re-use. Faculty retrieve stores information much better when the information item in a certain folder has a content that relates to the folder name. Remembering an attribute of the file also helps in retrieving information that has been stored.

The interviews shed more light on the issues, highlighting how and where the files were usually saved:

'I make use of cloud computing in storing my information so that I can assess them wherever I am. I also have drop-box on all devices for the transfer of information. My hard drive is always at hand and always on the go. I keep the hard drive at home and update it regularly as a back-up. When traveling I back-up my hard-drive in case of emergencies. Less relevant information is kept on an external hard-drive. I'm able to link with other folders in search of information. My folders are arranged in hierarchies and are very well organized. I work in drop box and since it's on all my devices, I am able to transfer, share and synchronize information easily. In disseminating information, I use electronic means and use the hard copy as a support. I use the module to teach and so all the information materials are online for students to access. I use IPAD in teaching, I also use power point. I use Bookmarks for saving important websites. My open browsers have book marks for some of them. I also add to them to my 'favourite' using the star so that I can go back to them easily' (VVU).

The responses of other interviewees also shed further light.

'When sharing information, I send it through e-mails. I sometimes send information to my mail so I can assess it and sometimes I also store information on pen-drives (UPSA). When duties need to be completed, I send them home on the external drive to work on the laptop'.

Majority of the faculty assessed their computer literacy skills as intermediate. But in the interviews, the faculty seemed to consider this level of skill as adequate for their task, and also reported performing well in using the computer for tasks. It was found that computer literacy explained finding and re-finding electronic information, but this was not the case in finding and re-finding print information.

'I have adequate computer literacy skills to manage my electronic information. I create folders in which I arrange my information for storage. In every folder, I have sub-folders too. These folders are named and I write down the names of the folders in my diary. I even keep all my wife's important electronic documents for her too. I have created a folder where I keep hers' (VVU).

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