A call for libraries to go green: an information behaviour perspective to draw interest from 21st century librarians

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Abstract

Purpose – When confronted with a problem where the solution is not clear or obvious, a first step would be to search for more information, trying to make sense of the problem. The intention of this contribution is to make sense of the call for "libraries to go green", while at the same time to show the potential of explicitly considering information behaviour and the need to draw on the full spectrum of information literacy skills (e.g. recognising and expressing an information need, seeking, using, and disseminating information) to stimulate librarians' interest and confidence in taking on the challenge of going green and making a difference.

Design/methodology/approach – The column will be written against the background of research from Information Literacy, Information Behaviour, and research on sustainable and environmental friendly library and information (LIS) services.

Findings – Although rather a limited number, publications on "going green" and the "paperless" library/society address a variety of issues ranging from planning "green" library buildings, to assessing the experiences of LIS professionals in developing sustainable "green libraries", to information behaviour in using e-books in academic contexts. Considering the finding and use of information on "going green", from an information behaviour perspective, helps to bring many issues to consider in furthering research on "going green" to the front.

Originality/value – Although much has been published about information behaviour and information literacy, and although attempts of publishing on various issues of "green" libraries are noted, I am not aware of other work aligning these issues.

Keywords - Librarians, Libraries, Library services

1 Introduction

In the 1970's and 1980's Wilfred Lancaster set the tone for paperless societies from the perspective of libraries and information services (LIS), especially with a book by that title (Lancaster, 1978; Lancaster, 1985). In a later book, *Indexing and abstracting: theory and practice*, Lancaster (1991:260) took his ideas even further and depicted a model of the filtering levels in a paperless publishing environment. His earlier work has been available more than 30 years, and although some progress has been made, we still do not see signs of such a society. Young (2008) comments on the aftermath of Lancaster's prediction, while others seem more sceptic when one judges from the titles of the publications. McCullen (2011) comments: "Paperless society? What a load of scrap". McCormack (2011) expresses doubt on whether paperless library options are even possible, while Smith (2008) exclaims: "Welcome to my nightmare! The paperless office of 2010".

For me the title of Lancaster's (1978) book is the first thing that comes to mind when hearing the call for "libraries to go green"; "going green" however entails much more – as will be shown. Heading the concerns for global warming and climate changes, and efforts by many governments, international bodies, businesses, advocacy groups, and institutions to reduce carbon footprints (Carballo-Penela and Domenech, 2010; Chowdhury, 2012, p. 633), it is

interesting to note that rather limited measures are in place in LIS. The same is said of research: "... to date very little research has taken place on information and sustainable development in general, and on the environmental impact of information services in particular" (Chowdhury, 2012, p. 633).

Some questions arise: why are there not more evidence of research and "green practices" in LIS and how can this urgently be addressed? Furthermore, how can LIS professionals be sensitised to search for information on green and sustainable LIS and to engage in research – be that full scale scholarly research, such as the health effects of the "paperless society" (Aborg, 2003), understanding the use of institutional repositories with integrated social networking tools (Asunka, Chae and Natriello, 2011) and addressing green information technology (IT) in balance with the theory of going green (Fairweather, 2011) or more pragmatic and action research such as a survey of staff's experiences with environmental issues (Alpi, 2000), or on websites and blogs for "the green at heart" (Blaine, 2008).

For many years, the literature on Information Behaviour has noted that information seeking behaviour follows on a person recognising a need in his/her knowledge. It concerns a gap that needs to be bridged or filled, by looking for information to solve a problem or make informed decisions (Case, 2012; Dervin and Nilan, 1986). Nothing will happen if such a gap in a person's knowledge is not recognised. Wilson (1999) refers to information needs that are not recognised or dormant information needs. Information needs can be recognised, but ignored by taking no further actions. Case *et al.* (2005) note active attempts to avoid information, because such information may not suit one's purpose or point of view, or because one fears that it will cause more anxiety. Back to the issue of a call for "libraries to go green": what do I know about this, how do I feel about my knowledge and the need to take action, do I think I can contribute something, do I need information, am I willing to seek information, where do I turn to, why do I take a particular approach, and once I found the information, what do I then do?

This contribution will consider the call for "libraries to go green", from the perspective of information behaviour, including the recognition (or ignoring) of information needs and the ability to adequately express such needs as search terms and to formulate appropriate search strategies. In addition it will explore the meaning of "going green", what has been published with regard to libraries, how to put information to use, and a few suggestions on opportunities to make a difference. Although the focus is on "going green" this contribution will also attempt to stress the value to be gained if library and information (LIS) professionals focus on their own information behaviour and their own information literacy skills... in order to deepen their understanding of the users they are serving – issues that I have touched on in earlier work (Fourie 2010).

2. Information behaviour and "going green"

Over the past few decades many publications have appeared on first the computerisation of libraries, computerised databases and online public access catalogues. These were followed by publications on digital libraries, electronic books, full-text databases, digitisation, open access repositories, electronic learning management systems, personal information management systems, electronic current awareness services, RSS feeds, game based learning in libraries with specific reference to electronic or video games. Still it seems as if this triggered with only very few librarians, a need for information on how libraries should take on the challenges of moving to a paperless society, and even more so the challenges of "going green", and developing environmental friendly and sustainable LIS. Hardly any interest (i.e. potential information needs) on the importance of information on sustainable development has been expressed (Chowdhury, 2012, p. 634). Although my immediate reaction to the words "going green" was "paperless society" and "electronic information resources", and although I am aware of concerns for climate changes, the need to think

about this in terms of the role of LIS, what needs to be done, and what I can do, never occurred to me: I never thought about my lack of knowledge and insight as a gap in my knowledge, or in the words of Belkin, Oddy and Brooks (1982) an Anomalous State of Knowledge (ASK). Not recognising a need for information, or ignoring the need, is part of information behaviour.

Within the theme for this edition, I realise that the need for "libraries to go green" is something I first need to make sense of. Following the arguments of Dervin and Nilan (1986), in the process of sense-making I need to seek information; I need to make sense of what "going green" entails and what is required by libraries. What has been published in the LIS literature, and what can be learned from the research in other disciplines? These are also part of information behaviour. In her model of the Information Seeking Process, Carol Kuhlthau (2004) points to the affective component of information seeking; it is more than cognitive actions and decisions; information seeking involves feelings and thoughts. When starting off, I did not experience fear (I am not the manager of a LIS who is expected to come up with a 10 year strategy for the LIS' contribution to the company's commitment to "going green"; neither am I submitting a grant proposal to investigate solutions). I did feel embarrassment for not knowing more about the topic, or attempting to do something (apart from using less paper). It certainly can be an interesting topic to teach students skills in database and Internet searching. I also experienced surprise (or should it be shock?) for seeing articles about the topic, but never making a connection on how important it is for libraries to take steps. For me this points to the need for people who do recognise gaps in our knowledge to point it out, and to bring information needs to the front – certainly a function of specialist themes for journals (such as the journal for this edition) or conferences, or even competitions for newly graduates. The emotions I experienced also stress again the importance to consider emotion and the affective in information literacy training and the design of information systems (Nahl & Bilal, 2007; Julien, McKechnie & Hart, 2005).

Once, an information need is realised and acknowledged, it needs to be expressed in words and as search terms, and then as a search strategy or combination of search strategies. In 1968 Taylor already pointed to the difficulties people experience in expressing information needs: they move from a visceral information need, to a conscious information need, to a formalised information need, to a compromised information need. Applying this to the need for libraries to "go green", a number of information needs comes to mind, and each may entail one or more search strategies, to be further refined and articulated:

- What does "going green" entail and which search terms are necessary to find information?
- What has been reported in the LIS subject literature?
- Which information resources (i.e. databases, search engines) need to be searched to find information?
- Which other disciplines will shed light on "going green"?

There are many more questions (i.e. information needs); these will surface and change as one reads more about "going green", and as interest and enthusiasm growth.

3. What does "going green" entail?

The quickest and most convenient source to use to get a definition on "going green" seemed to be Wikipedia. Wikipedia highlighted the link between "going green", and environmentalism, and greenwashing, as well as related terms such as "global warming", "conservation" and "preservation". Each of these can stimulate further thoughts e.g. the fact that "greenwashing" refers to the impression organisations' try to leave that they are environmental friendly, aiming for "green marketing". These can all be potential search terms in seeking more information.

The next information resource which seemed convenient to clarify the meaning of "going green" was Google – just for a quick glance. Scanning the entries on the first page... I spotted something that *appealed* to me – it was something in the choice of words that urged me to take a further look: "Going green" means to pursue knowledge and practices that can lead to more environmentally friendly and ecologically responsible decisions and lifestyles, which can help protect the environment and sustain its natural resources for current and future generations" (http://www.thrall.org/special/goinggreen.html). Nothing in the web address tipped me off that this site was created by a library – Middletown Thrall Library. The website is really worth checking out.

Perhaps there are better and more academic definitions. For me, this definition was right for the moment: it raised my interest in the topic, and it left the feeling that it is possible for LIS to contribute to "going green": holistically seen "going green" is very challenging, but there are many smaller issues that can help to make a difference. What is necessary is to know what has been done by others: reported in the subject literature and show-cased on the Web. This definition, considering Kuhlthau's (2004) model of the information seeking process, stimulated my interest, and made me feel more confident that there might be something I can understand and relate to: the information seeking process for more detail was on! Being an academic, I was, as a start, curious to consider other definitions; how is "going green" defined in the scholarly literature of Library and Information Science? Chowdhury (2012, p. 635) defines a green information system as a system "designed to minimize GHG [green-house gas] emission throughout its lifecycle from content creation to distribution, access, use, and disposal". A good definition (but also more intimidating) setting the challenges on a different level, and aimed at promoting information systems on a model of cloud computing. Both this definition and the more practical focus of the Middletown Thrall Library can set the tone for 21st century librarians to take on a social and environmental responsibility.

3 Libraries' interest in going green

Two quick searches each on Library and Information Science Abstracts (LISA) and Library and Information Technology Abstracts (LISTA) for the concepts "going green" and "paperless society" in the titles of publications, depicts some of the current interest amongst LIS in "going green" and at least cutting down on the use of paper. These are briefly categorised here:

- Holistic and scholarly aimed at research agendas: Development of information services that can limit GHG emissions throughout the lifecycle of the generation, publication, organisation, distribution, access, use and disposal of information; (Chowdhury, 2012); finding a balance between green IT and the philosophy and theory of "going green" (Fairweather, 2011).
- Aimed at feasibility, practical issues and progress: Including reports on progress made; examples of efforts in libraries and countries (e.g. Japan); reviews of progress made in countries and in sectors of industry and society; keeping (publically available) records of projects; screen colour of computers; guidelines for specific sectors of society such as small businesses, trade, patents, law libraries, and pension agencies; addressing navigation in paperless information systems; IT architecture; building design; sustainability (Coder, 2008; Loder, 2010; Stoss, 2010).
- Publishing: Including means of electronic publishing, implications, copyright.
- Digitisation and repositories (Asunka, Chae and Natriello, 2011).
- Applications and services in LIS that lends itself to going green e.g. interlibrary lending, ordering, cataloguing, marketing, promoting "green" issues.
- Targeting: Including targeting young people and the Net Generation, users of e-books, studies on LIS professionals and how "green" they are, specific sectors such as academic or schools, and specific media (Watt, 2010).

- Effects and implications: Including health effects of IT (Aborg, 2003), ethical issues: increasing the digital divide when relying (only) on IT (Lackie, 1998 refers to the "paradox of paperless classes"), experiences of staff (Alpi, 2000).
- Collaboration: Including collaborative work in a "green environment" (Greenway, 2007).
- Access to the literature supporting "going green": Scholarly research, blogs and websites (Blaine, 2008).

There are numerous challenges and opportunities for LIS on all levels to make a contribution. A first point would be to search the scholarly publications indexed in databases such as LISA, LISTA, Scopus, ScienceDirect, Emerald and ISI Web of Science. A next step would be to use Web search tools to identify libraries such as Middletown Thrall Library that sets an example. Browsys.com is always a good point of departure to access a variety of search tools with ease.

5 SUGGESTIONS

What LIS require to move forward on "going green" are efforts on various levels (theory and practice), reflecting a variety in strengths and backgrounds, and abilities to see a bigger, holistic picture, as well as the finer detail. I am offering a few suggestions only:

- Targeting individuals in society in their everyday life contexts: LIS can explore and
 promote the numerous practical issues where each individual can make a difference
 e.g. in terms of using less paper (e-books, digital libraries, mobiles and tablets),
 saving gas by using public transport, the food we eat, and recycling. Many ideas can
 be gathered from the website of Middletown Thrall Library.
- Exploring opportunities in involving people (LIS users and especially non-users) to generate creative ideas on their own as well as LIS' contributions to "going green" e.g. involving them in making suggestions on using mobiles and tablets to cut down on the use of paper and photocopies.
- Arranging strategic thinking and planning sessions to ensure sustainability.
- Identifying disciplines which LIS need to participate in "going green" initiatives.
- Compiling reports on the status quo in different sectors regarding "going green" e.g. in Agriculture, Construction, Engineering, Transportation, and Waste management.
- Working on developing expertise in behavioral changes: a first step would be to realise the need for factual information (cognitive issues), as well as addressing the affective.
- Exploring means of sharing ideas on "going green".
- Displaying relevant information on "going green" available in books, videos, etc.
 through every possible means be that home pages, their own video clips, games.
 Information is associated with serious business and serious work, but perhaps a bit
 of fun in sharing it can add incentive to those doing the work, as well as those at
 whom the information is aimed.
- Improving search skills in identifying information resources on the topic, as well as the initiatives taken by other libraries.
- Relating to the everyday life habits and needs of people, and translating this on their behalf (not all information needs are realized and expressed) as information needs to be met by proactive availability of information on food and eating, organic food, gardening, dealing with waste and water, pollution and recycling.
- Promoting scholarly research, especially with regard to the role of LIS e.g. as reflected in the review reported by Chowdhury (2012).
- Raising awareness of organisations working on various issues concerning environmentally friendly and sustainable libraries.

6 Conclusion

"Going green" and environment friendly, sustainable information systems and services are serious issues requiring immediate attention. Although daunting as is clear from the research agenda proposed by Chowdhury (2012) there are many opportunities for LIS to contribute – even on a small scale while working towards a bigger picture. A first step would be to recognise the need for more information on the issue, to seek information, to gain insight and confidence and enthusiasm, and then to put information to use, and find "green" means to share and disseminate information. Information dissemination can be by means of LIS websites, blogs, and literature reviews. LIS professionals can promoting evidence based decision-making in "going-green", and develop services that allows for information grounds to encounter information, serendipity in discovering information and information foraging (all concepts discussed in the information behaviour literature (Case, 2012)). These can raise awareness of "going green" issues and initiatives. They can promote inter-disciplinary awareness and collaboration. *They* can collaborate in finding solutions. A first step for LIS might be to each start a journal club on "going green" – allowing no print copies and no print notes... and challenging each other to find solutions.

References

Aborg, C. (2003), "Health effects of "the paperless office": evaluations of the introduction of electronic document handling systems", *Behaviour and Information Technology*, Vol. 22 No. 6, pp. 389-396.

Alpi, K.M. (2000), "It's not easy being green: a survey of staff experiences with environmental issues in sci-tech and other libraries", *Issues in Science and Technology Librarianship*, No. 26. (Available online: http://www.istl.org/00-spring/article1.html; accessed 5 June 2012)

Asunka, S., Chae, H.S. and Natriello, G. (2011), "Towards an understanding of the use of institutional repository with integrated social networking tools: a case study of PocketKnowledge", *Library & Information Science Research*, Vol. 33 No. 3, pp. 80-88.

Belkin, N.J., Oddy, R. and Brooks, H. (1982), "ASK for information retrieval. Part 1", *Journal of Documentation*, Vol. 38 No. 2, pp. 61-71.

Blaine, A.S. (2008), "Think globally, but where to start?: websites and blogs for the green at heart", *Searcher*, Vol. 16 No. 3, pp. 25-29.

Carballo-Penela, A. and Domenech, J.L. (2010), "Managing the carbon foot-print of products: the contribution of the methods composed of financial statements (MC3)", *International Journal of Lifecycle Assessment*, Vol. 15 No. 9, pp. 962-969.

Case, D.O. (2012), Looking for information: a survey of research on information seeking, needs, and behaviour, 3rd edition, Emerald Group Publishing, Bingley.

Case, D.O. *et al.* (2005), "Avoiding versus seeking: The relationship of information seeking to avoidance, blunting, coping, dissonance and related concepts", *Journal of the Medical Library Association*, Vol. 93 No. 3, pp. 353-362.

Chowdhury, G. (2012), "Building environmentally sustainable information services: A green IS research agenda", *Journal of the American Society for Information Science and Technology*, Vol. 63 No, 4, pp. 633-647.

Coder, M. (2008), "It's not easy being green: or is it?", *College & Research Libraries News*, Vol. 69 No. 11, pp. 692-694.

Fourie, I. (2010), "Deepening our understanding of information behaviour in health librarianship: information literacy skills in praxis", EAHIL (European Association of Medical and Health Libraries) conference, Lisbon, Portugal, 14 - 18 June 2010. (Unpublished)

Lancaster, F. W. (1978), *Toward paperless information systems*, Academic Press, New York.

Lancaster, F.W. (1985), "The paperless society revisited", *American Libraries*, Vol. 16 No. 8, pp. 553-555.

Lancaster, F.W. (1991), *Indexing and abstracting in theory and practice*, University of Illinois, Champaign Illinois.

Dervin, B. and Nilan, M. (1986), "Information needs and uses". Edited by M.E. Williams. *Annual Review of Information Science and Technology*, Vol. 21, pp. 3-33.

Fairweather, N.B. (2011), "Even greener IT: building green theory and "green IT" together, or why concern about greenhouse gasses is only a starting point", *Journal of Information*, *Communication and Ethics in Society*, Vol. 9 No. 2, pp. 68-82.

Greenway, S. (2007), "Collaborative working: life after the paperless office", *Records Management Bulletin*, No. 138, pp. 12-14.

Jenkin, T.A., Webster, J. and McShane, L. (2010), "An agenda for "Green" information technology and systems research", *Information and Organization*, Vol. 21 No. 1, pp. 1-24.

Julien, H.T., McKechnie, L.E.F. and Hart, S. (2005), "Affective issues in library and information science systems work: a content analysis", *Library & Information Science Research*, Vol. 27, pp. 453-466.

Kuhlthau, C.C. (2004), Seeking meaning: a process approach to library and information services, 2nd edition, Libraries Unlimited, Westport, CT.

Lackie, P. (1998), "The paradox of the paperless classes", *Social Science Computer Review*, Vol. 16 No. 2, pp. 144-157.

Loder, M.W. (2010), "Libraries with a future: how are academic library usage and green demands changing building design", *College and Research Libraries*, Vol. 71 No. 4, pp. 348-360.

McCormack, N. (2011). "Mission impossible? The future of "paperless" library operations", *Library Management*, Vol. 32 No. 4-5, pp. 279-289.

McCullen, A. (2011), "Paperless society? What a load of scrap", *The Bottom Line: Managing Library Finances*, Vol. 24 No. 1, pp. 58-60.

Middletown Thrall Library, http://www.thrall.org/special/goinggreen.html, accessed 4 June 2012.

Nahl, D. and Bilan, D. (eds.) (2007), *Information and emotion: the emergent affective paradigm in information behaviour research and theory*, Information Today, Inc., Medford, NJ.

Smith, G. (2008), "Welcome to my nightmare! The paperless office of 2010", *Records Management Bulletin*, No. 141, pp. 6-9.

Stoss, F. (2010). "Libraries taking the "LEED": green libraries leading in energy and environmental design", *Online*, Vol. 34 No. 2, pp. 20-27.

Taylor, R. S. (1968), "Question-negotiation and information seeking in libraries", *College and Research Libraries*, Vol. 29 No. 3, pp. 178-194.

Young, A.P. (2008), "Aftermath of a prediction: F.W. Lancaster and the paperless society", *Library Trends*, Vol. 56 No. 4, pp. 854-858.

Watt, M.J. (2010). "Has green news reporting gone green? An analysis of geographically diverse newspapers' online and print coverage of climate change", *First Monday*, Vol. 10 No. 4. (Available online: http://o-

www.firstmonday.org.innopac.up.ac.za/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/3163/2631; accessed 5 June 2012)

Wikipedia: http://en.wikipedia.org/wiki/Going green accessed 4 June 2012.

Wilson, T.D. (1999), "Models in information behaviour research", *Journal of Documentation*, Vol. 55 No. 3, pp. 249-270.

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