

A Study of Legal Information Seeking Behaviour to Inform the Design of Electronic Legal Research Tools

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1 Introduction and motivation for research

Our work is motivated by the desire to support digital library users in ‘getting to grips’ with electronic resources. More specifically we are motivated by the desire to support users in understanding how to use, and in which situations it is appropriate to use, particular digital library or electronic resources.

This work focuses on lawyers as a specific category of user; Callister [5] highlights that lawyers been traditionally regarded as having poor research skills. Electronic research skills are no exception: Howland and Lewis [8] surveyed U.S. law firm librarians to examine the quality and extent of the electronic legal research skills of summer clerks and first-year associates. They found that these graduates were unable to efficiently or effectively research issues that appear routinely in actual legal cases and concluded that they were not efficient or cost-effective users of LexisNexis and Westlaw (the two biggest digital law libraries in terms of case, legislation and journal coverage). This was despite all of the students having received some training on how to use the libraries while in law school.

Digital libraries have traditionally been regarded as difficult to use [4] and based on our contextual observations with academic lawyers, digital law libraries such as LexisNexis Professional and Westlaw are no exception. We believe that this difficulty of use contributes to the problems that lawyers face with electronic legal research. Furthermore, we argue that developing better research skills goes hand-in-hand with developing an understanding of the electronic environments in which these skills must be practiced. Our current work is focused on gaining a better understanding of legal academics’ and professionals’ information seeking behaviour when using existing electronic resources. This understanding will then be used to inform the design of user-centred support tools for digital law libraries (and potentially the design of the libraries themselves).

2 Related Work

There are very few studies which focus on legal information seeking behaviour and even fewer user-centred studies on legal research with a focus on digital law libraries or other electronic legal research tools. In this section, we briefly review a handful of studies which focus on the usage and perceptions of digital libraries; in a transaction

log-based study, Yuan [13] monitored the LexisNexis Quicklaw searches of a group of law students over the period of a year. Yuan examined several aspects of their searching behaviour, including the increase of their command and feature repertoires, their change in language usage, increase of search speed and change of learning approaches. Yuan found that experience did not result in searchers making fewer errors or being able to recover from more errors. Yuan also found that although participants with higher levels of Quicklaw experience used a greater variety of commands and features than those with lower levels of experience, some commands remained rarely or never used. Despite this, however, participants were able to accomplish many tasks by knowing a core set of commands and features.

In order to identify the 'fit' of the same digital library to various organisations, Elliott and Kling [6] conducted a qualitative study into digital library usage. They interviewed forty-six legal professionals based in three courtrooms in the same county within the California Superior Courts System. Each of the three courtrooms provided access to different degrees of technology to support legal research. Regarding attitudes to computer usage, Elliott and Kling found there to be two camps of legal professionals; one highly enthusiastic towards computer usage and another who view computer usage with derision. The deputy law librarian for the District Attorneys Office pointed out that lawyers will go to "what they are comfortable with." This is apparently despite the fact that all of the lawyers in the study had access to periodic training classes for all digital library systems. Indeed, regarding electronic information seeking training attitudes, the authors found that lawyers prefer one-to-one assistance with digital libraries rather than group training and made recommendations for increased tailored training assistance. They found that most lawyers were lost when attending formal classes (or simply did not want to allocate time to take such classes).

Andrews [1] examined perceptions of LexisNexis (and their perceptions of the training that they received) by administering questionnaires and structured interviews to eighteen legal professionals and law librarians. Andrews asked interviewees about the usability of the Lexis system as it stood in 1994 (which, it should be noted, has changed significantly since then). The user interface was regarded as a significant barrier to usage (although, interestingly, the author highlights that suggestions to make the interface more in-line with standard PC/Mac interfaces seem to be based on legal professionals comparing Lexis to software packages of the time rather than to other online systems).

Sutton [12] examined the legal literature in order to explore how lawyers construct 'mental models' of the law. Sutton notes that these mental models evolve through iterative interaction between lawyers and the corpus of law as well as between lawyers and the legal system. Sutton suggests that Lexis and Westlaw can be enhanced in order to support users in building a 'mental model' of the law. Unsurprisingly, these enhancements are user-focused (probably because Sutton's study was also 'user-focused' in the sense that his motivation appears to be helping lawyers to better understand their work domain of law). Sutton argues that "Lexis and Westlaw should embrace a dynamic behavioural model of system users and assist mental model building at all points along the knowledge continuum from base-level modeling through context-sensitive exploration to model disambiguation." He

suggests that support should be provided to guide the user “from the most general topical outline through treatise/commentary responses to primary sources themselves, based on a legal schema of increasing complexity.” In a similar vein to Sutton’s argument that digital law libraries should support users in building a mental model of the law, we argue that digital law libraries (and digital libraries in general) should also support users in acquiring and refining a mental model of the *system*. The value of supporting users in this endeavour is highlighted by Borgman [3].

3 Research Methodology

The initial phase of our study comprised a series of semi-structured interviews and naturalistic observations of twenty academic law students, ranging from first year undergraduates to final year doctoral students. This spread of academic participants was recruited to provide complementary theoretical perspectives at each stage of UK university-level academic legal research. All of the students were studying at a large London university for an LLB (4 first year, 3 second year and 2 final year students), LLM (8 students), or PhD (2 students). In addition one participant, who was a studying a vocational Legal Practice Course elsewhere, was included in the study in order to complete the theoretical picture.

Participants were informed that the study would focus on how they look for legal information as part of their work and interviews and observations were conducted based on the Contextual Inquiry approach (see [2]). Interviews began with a set of introductory questions, focusing on what stage the student was at in their academic career, the nature of legal research involved, the electronic resources used and how they choose when to use a particular resource. These introductory questions were followed by a naturalistic observation where participants were asked to find some electronic legal information that they currently need to find as part of their academic work. If a student was unable to think of a pressing research need, they were directed to think back to a recent time when they needed to look for legal information and, if possible, to show the investigator how they went about finding that information.

Participants were asked to think aloud whilst using the computer, explaining what they were doing as they were doing it and were told to verbalise any thoughts going through their heads. Whilst they were using the electronic resources (predominantly the digital library resources LexisNexis Professional and Westlaw), the researcher asked seemingly innocuous but probing questions designed to uncover details about their knowledge of the digital library system and details about the information that they were expecting to find. These questions took the form of opportunistic ‘how,’ ‘what’ and ‘why’ questions. Interviews were transcribed and are currently in the ‘open coding’ stage of Strauss and Corbin’s Grounded Theory [11] analysis.

4 Preliminary Findings

In the first phase of our study, this group of academic lawyers we interviewed/observed found it difficult to find the information that they were looking for when using digital law libraries such as LexisNexis Professional and Westlaw. We found that much of this difficulty arose from poor knowledge of the digital library system itself rather than poor research skills in general. This poor system knowledge included a lack of knowledge of coverage of the system in terms of cases and journal articles, but also a lack of knowledge of how to formulate the correct search terms for a specific system. As one participant commented, when asked to explain something useful she had learnt about how an electronic resource works:

“Although in Westlaw it appears as though [the document] doesn’t exist, it does actually exist although you’ve just not typed in exactly what it wants you to type in. You have to type it in exactly how it’s specified there [in the Westlaw database]. I just know this now from practicing a bit, but I guess if you didn’t know it it’s a bit of a pain because you get a bit stuck as to what to do and you think ‘oh well, the resources aren’t there so how am I meant to find it?’” – S13

Most worrying perhaps, and in line with the findings of Yuan and of Elliott and Kling, was that law students do not delve beyond the basics of digital library systems and were often unwilling to go to training classes on how to use digital law libraries despite being aware that these classes had been available to them. Whilst this may be understandable, since they are not approaching the system with the intention of learning how the system works but with the intention of satisfying a pressing research need, this suggests the need for students to understand more about the digital library systems that they use (within-systems knowledge).

In line with Elliott and Kling’s findings that lawyers will go to the digital resources ‘they are comfortable with,’ we found that although this group of academic lawyers often used several electronic resources in a complementary fashion to conduct legal research, they often chose to rely primarily on one of either LexisNexis or Westlaw for conducting their legal research. This reliance on either Lexis or Westlaw was often independent of the information task at hand and their preference was often based upon vague or sometimes flawed rationale for always choosing one digital library over the other:

“In general I use LexisNexis, but there isn’t a particular reason for it.” – S1

“Sometimes if I don’t find something on Westlaw I will look into LexisNexis [Professional]...because Westlaw is more convenient... it’s more easy to surf... and for some reason which I can’t really explain, I always look first on Westlaw and then if I can’t find it I’ll go onto LexisNexis. It’s probably because I’m more used to using Westlaw so I would only resort to LexisNexis in case of emergency.” – S6

“If it’s a case that’s on both [digital libraries] then it’s probably better to get it on LexisNexis because then you can copy and paste the case into a Word document

whereas with Westlaw it's more complicated... you have to e-mail it to yourself and then cut and paste and print.” – S5

Indeed, much of law students' rationale for choice of system referred to 'the interface' and may be symptomatic of problems or barriers caused by usability (as suggested by Andrews [1]). It is more difficult, however, to ascertain where flawed rationale for choosing systems stems from. It is clear that poor knowledge of individual systems plays a part in the creation of incorrect assumptions, but so might usability issues or a host of other inter-dependent factors such as knowledge of the law and knowledge of the legal research process.

A potentially more serious finding regarding the use of multiple electronic resources was that there was often an incomplete, incorrect or sometimes outright lack of awareness of concrete differences between digital law libraries:

“I think on LexisNexis [Professional] I can simply type in the citation of the case but I think in Westlaw sometimes I have to type in the name of a case... I think they're basically similar because if you find the same case on the two sites, the text will be the same.” –S1

Law students' lack of knowledge of the similarities and differences between individual digital law libraries might well play a part in law students' incorrect assumptions about the way that individual systems work. This finding also suggests the need for students to gain an understanding of the similarities and differences between digital law libraries in order to appreciate the situations in which different electronic resources might be useful (between-systems knowledge).

Overall, these findings highlight the need for the design of support tools for digital law libraries. Just as Sutton [12] argues that digital law libraries should be designed to allow lawyers to form a 'mental model' of the work domain, we believe that digital law libraries should also support users in forming a mental model of the *systems* that they use to find information; information that can then be used to support users' models of the work domain. Since digital libraries can act as both portals and barriers to finding legal information, we argue that 'getting to grips' with legal research tools might be just as important as getting to grips with the legal domain itself.

5 Proposed Future Work and Issues for Discussion

Aside from our planned work with practicing lawyers, complementary interviews are currently being conducted with other stakeholders that might provide a useful theoretical basis from which to triangulate and hence better validate our findings; academic teaching and research staff (from lecturers to professors) and Law Library staff. All of these stakeholders are likely to provide an element of support to law students conducting legal research and hence may hold perceptions or opinions on the difficulties that they face and why they behave in the way that they do. In addition, and particularly in the case of law librarians, we have found that stakeholders share a similar motivation to ours and hence have useful opinions that might guide our future

design work. Indeed, we plan to feed our observations on academic lawyers' behavior back to major stakeholders in the form of a representative set of scenarios (see Rosson & Carroll [10]) and use these to drive our future design work.

We are encouraged by the first phase of our study because the data obtained is rich and has yielded some interesting preliminary findings. However, we must not underestimate a potential difficulty involved with abstracting patterns of behavioural data from our interviews; it may be difficult to identify patterns which are concrete enough to provide useful insights for design whilst abstract enough to provide a coherent and comprehensive description of what lawyers do when conducting legal research. A good example of information behaviour research which appears to strike a useful balance of such concreteness and abstractness is Ellis' Behaviour Model of information seeking behaviour [7]. Although this model does not provide any direct design specifications for interactive systems, it does, as asserted by Ingwersen and Järvelin [9], describe types of activities that users might want to accomplish through such systems. We aim to strike a similar balance and now need to consider how this balance can be achieved, along with other implementation issues such as how to best design to support the patterns of behaviour that have been identified.

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Appendix: Supervisor Statement

Stephann Makri is studying in UCL Interaction Centre (UCLIC), supervised by Prof. Ann Blandford and Dr Anna Cox. UCLIC is a centre of excellence in Human-Computer Interaction, comprising members of staff from the departments of Psychology and Computer Science. There are currently 6 members of academic staff, 6 research fellows and 7 research students. The group has three main research areas: cognition and interaction; positive usability; and theories and methods for understanding interactive system use in context. The theme of understanding information seeking and use crosses these research areas. UCLIC currently has 6 externally funded research projects, of which the two largest (employing 4 researchers) are concerned with information seeking and use.

Stephann's work bridges between these two research projects. One is the User-Centred Interactive Search with Digital Libraries (UCIS) project which is investigating the development of students' information seeking behaviour over the course of their three-year undergraduate program and studying the information seeking behaviour of academics, including lawyers, with a view of feeding these findings into to design of digital libraries. This project is a collaboration between UCLIC and the UCL School of Libraries, Archives and Information Studies (SLAIS). The second project, Making Sense of Information (MaSI), aims to understand the professional information work of lawyers, with a focus on how information is accessed, assimilated, organised and used and on how systems can be better designed to support that work. Stephann's work is making a great contribution to both projects: his study of law students at different stages of their education provides a valuable contrast to the longitudinal study of one cohort of information management students that is a central element of the UCIS project; his study of academic lawyers provides a useful data point for comparison against the different groups of academics being studied within UCIS; and his study of professional lawyers is complementing the work of MaSI.

Through his involvement with these projects, Stephann has ready access to a community of academics and research fellows, including specialists in information studies, HCI and systems design. However, he is the only PhD student in the group working at the intersection between usability, information seeking and the design of digital libraries. Participation in the Doctoral Consortium at ECDL would be of great benefit to Stephann, bringing him into contact with other students working in related fields as well as with international experts in the area of digital libraries. He would benefit from having to explain his work to this community and receiving feedback from peers and experts in the area. I would expect him to contribute well to discussions at the doctoral consortium and to establish productive longer term interactions with other DC participants. Stephann has made an excellent start to his doctoral studies; participation in the ECDL Doctoral Consortium would be a good

opportunity for him to discuss his work with a wider circle of people and become more aware of other developments in digital library research.