

Information Behaviour among Undergraduate Students of Law in a Hybrid Environment

Research proposal

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1. Project outline

The **purposes** of this research project are:

- to gain awareness within the library's management and staff of the effective information-seeking behavior¹ of the students of Law in relation to the legal information resources available locally and remotely on paper-based and electronic mediums;
- to provide information to assist the library's management and staff in policy and decision making in order to deliver to their users more effective and differentiated services within the context of the hybrid library.

So, the **focus** of this study will be on students of the University of Bologna's Faculty of Law and it will explore their information-seeking behavior in a hybrid environment in order to cope with ongoing changes.

In fact, we are witnessing an erosion of the distinction between the library and the network. [Manoff, 2000]. So, in days when the physical library is recognised to no longer hold a privileged position, the hybrid library should be, as Chris Rusbridge argues, "designed to bring a range of technologies from different sources together in the context of a working library, and also to begin to explore integrated systems and services in both the electronic and print environments" [Rusbridge, 1998].

Prior to the last two decades of the twentieth century, legal research required a consultation of a variety of paper-based resources by going necessarily to a law library, but today automated systems can bring via Internet a great amount of legal information to one's computer's desktop even outside library's walls [Hanson, 2002]. As Bast and Pyle suggest, we are assisting in a shift from a print-based paradigm of legal research to a computer-based one [Bast - Pyle, 2001].

¹ "Information seeking behavior is the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems (such as a newspaper or a library), or with computer-based systems (such as the World Wide Web)" [Wilson, 2000].

The underlying **theoretical framework**, that is to say the conceptual model that have provided guidance in setting research questions and in formulating aims and objectives is briefly introduced [Jarvelin - Wilson, 2003]². Wilson's suggestion that models address issues at various levels of information behavior and that they can be related by envisaging a "nesting" of models will be followed: alternative models address similar issues in related ways, they are complementary, rather than conflicting and, perhaps, they can be integrated into a more general framework [Wilson, 1999]³.

Wilson's problem solving model, that includes Kulthau's [1991] and Ellis's [1989; 1993] attempts at modelling information behavior, is adopted [Wilson, 1999].

This piece of research is intended in order to contribute to plug the gap existing in research on legal information in relation to users' studies, especially in the national context. I consider this kind of research particularly important if we reflect on the main and distinguishing characteristics of legal information and on the fact that an increasing amount of legal information is now often available free of charge on the web almost in real time⁴.

3. Emerging themes in information-seeking behavior in a hybrid environment

² As Jarvelin and Wilson state, "conceptual models are boarder and more fundamental than scientific theories in that they set the preconditions of theory formulation. In fact, they provide the conceptual and methodological tools for formulating hypotheses and theories. [...] A conceptual model provides a working strategy, a scheme containing general, major concepts and their interrelations. It orients research toward specific sets of research questions. A conceptual model can't be tested empirically, because it forms the basis of formulating empirically testable research questions and hypotheses. It can only be assessed in terms of its instrumental and heuristic value" [Jarvelin - Wilson, 2003].

³ "Information behavior may be defined as the more general field of investigation, with information-seeking behavior being seen as a sub-set of the field, particularly concerned with the variety of methods people employ to discover and gain access to information resources, and information searching behavior being defined as a sub-set of information seeking, particularly concerned with the interactions between information users (with or without an intermediary) and computer-based information systems [...]" [Wilson, 1999].

⁴ For more details see appendix one.

As Tenopir states, it is still unclear how the move from paper-based library collections to digital collections is affecting scholarly work, even if today there is much more variety in media and sources available to students and students are often recognised to do their research without setting foot in a library [Tenopir, 2003].

- Disintermediation and the role of the library: the situation described above has brought library's to face the problem of the so called "disintermediation". According to D'Esposito and Gardner's findings, even if students use increasingly the Internet as a resource when seeking information for academic assignments, they do not associate the Internet with the library and they do not think of asking a librarian for help [D'Esposito - Gardner, 1999]. This, as Grimes and Boening point out, increases the opportunities for students to select sources of dubious value and quality [Grimes - Boening, 2001].
- Perception and use of Internet resources and evaluation criteria: Grimes and Boening have found that students are using unevaluated resources and that a gap exists between what professors expect and what students actually use. They concluded that students were either ill-equipped or unwilling to make the effort to evaluate Web resources [Grimes - Boening, 2001]. Moreover, as Lubans notices, students are often reputed to lack the ability to discern and evaluate the information available on the web. In his piece of research, this seems to be confirmed by surveyed first-year Duke University's students' perception of their ability to use the web, but, at the same time, it's important to notice that for them the library is not the primary way for learning about the web and that the web is recognised to be a rich resource, one that students are using and coming back increasingly for their information needs, even if is almost always in tandem with the use of traditional resources [Lubans, 1998]. By contrast, Dalglish and Hall, by interviewing 12 students, have studied their uses and perceptions of the www and they have found that, even if information quality is not a concept that was

explicitly articulated, however their positive and negative feelings and attitudes towards documents retrieved suggested a set of criteria which they used to assess information quality (usefulness in a problem-solving environment, currency, completeness, usability, stability, validity, credibility, and so on). Besides, students' aspirations and frustrations point to the need to develop the concept of hybrid library and the interoperability of information systems and the need to improve their ability in using search tools and in constructing queries [Dalglish - Hall, 2000]. Besides, in an exploratory focus group of undergraduate perceptions of the Internet, D'Esposito and Gardner report that students were keenly aware of the importance of discerning the difference between reliable and unreliable information from the Internet. Students reported that the Internet sites of highest quality and reliability were those produced by the government, educational institutions, and reputable businesses and corporations [D'Esposito - Gardner, 1999].

- Books vs bytes: there is also a paucity of studies about their views about the role of traditional library resources in relation to the Internet [D'Esposito - Gardner, 1999]. As a result of their research, Dilevko and Gottlieb highlight numerous reasons that make undergraduates make such extensive use of print ones [Dilevko - Gottlieb, 2002]. By contrast, convenience and speed may play a large role in the selection of Web resources over traditional print books [Tolar Burton - Chadwick, 2000].

This research project addresses the need for further research about the legal research in a hybrid environment, focusing on how the ongoing change to digital legal information resources is affecting Law's students.

In the past few years the Association of College and Research Libraries has sketched out which are the competency standards for information literacy which will be taken into account in this piece of research in order to relate them to the present information

seeking behaviour; students must be able to articulate information needs, they must know how to search for and access information resources, they must be able to evaluate and effectively use the information they find [ACRL, 2000].

So, the **research problems** addressed are mainly **exploratory**, because little-understood phenomena and its variables will be investigated: in fact, on the one hand, it will be investigated which are students' usage patterns, attitudes and perceptions about legal information gathered from the Internet, especially about those that are freely available, and it will be examined in relation to those obtained from traditional library resources in order to discover whether students make appropriate use of the WWW in comparison with libraries. On the other hand, since very little is known also about how university students feel about using print books and print journals to complete their assignments in an online world, this piece of research will try to investigate if print sources are obsolete or if students consider print books and print journals to be inherently valuable, and if so, in what terms is this value perceived.

4. Project aims and objectives

4.1. Aims:

- Provide understanding of the information behavior of undergraduate students of Law.
- Explore the potentials/deficiencies of paper-based and electronic information resources to them and compare and contrast them;
- Explore institutional forms to be devised in order to better satisfy students information needs.

4.2. Objectives

- Identify how information needs are presently satisfied by using legal information available on different mediums.
- Identify how the information available on different mediums is accessed, perceived, evaluated and used, with particular interest for resources that are freely available online.
- Identify the perceived barriers/stimuli to access to the legal information resources available on different mediums and their perceived strengths and weaknesses.
- Evaluate contemporary use of electronic information by student of Law in comparison and, eventually, in contrast with print-based ones' use.
- Establish what/how participants assume they are doing in relation to the information-seeking behavior witnessed by the researcher and in relation to staff's opinion.
- Analyse which is the perceived role of the library and of its staff in a hybrid environment and relate it to staff self-perception.
- Identify students' expectations in relation to library's services.

5.

Benefits

5.1. Benefits for the library

The knowledge gained about these topics could play a vital role in meeting students' information needs effectively because the current library's policies and its long-term strategies would be informed by the results obtained. The "A. Cicu" library's management could use this knowledge for re-orienting its collections and facilities to attune them to the needs of them as a key part of its patrons.

In fact, the results obtained should be taken into account:

- for the informed evaluation of existing provision and decisions on collections' management and development;
- in redesigning library's spaces as a consequence;
- in creating, strengthening and promoting library's electronic facilities/tools and services;
- in planning users' information literacy programmes and staff training.

5.2. Benefits for no profit legal information providers.

The research project could give them an insight of how the resources they create and/or deliver are currently perceived and used by a significant part of their real/potential users. The results obtained could be helpful in systems design and in their promotion. In fact, the concepts (grounded in a theoretical framework) studied and developed in "A. Cicu" library context, as Kuhlthau states, may be applied to design effective information systems and services that respond to users' information needs and behavior. Such concepts might also provide a sound basis for productive further research [Kuhlthau, 1999].

6. Research methodology

This piece of research will be mainly a "*naturalistic enquiry*" based on fieldwork and the *case study*⁵ approach will be adopted. It consists in "an in-depth investigation of a

⁵ "Case study is not a methodological choice, but a choice of object to be studied" [Denzin .Lincoln, 1994]. For further details, see also the following scheme [Yin, 1994]:

strategy form of research question requires control over behavioral events? focuses on contemporary events? CASE
STUDY HOW, WHY NO YES

discrete entity (which may be a single setting, subject, collection or event) on the assumption that it is possible to derive knowledge of the wider phenomenon from intensive investigation of a specific instance or case” [Gorman - Clayton, 1997]. In fact, “a principal function of qualitative research is the development of theory from the intensive study of cases. In particular the qualitative researcher uses theory to help interpret and understand observed events or interactions, and through this interpretation in turn adds to the theory” [Gorman - Clayton, 1997].

More in details, a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. Besides, the case study inquiry copes with a situation in which there will be many more variables of interest than data points. The results rely on multiple sources of evidence, with data needing to converge in a triangulating fashion and benefit from the prior development of theoretical propositions to guide data collection and analysis [Yin, 1994].

So, this will be an *instrumental case study*⁶.

6.1. Methodological triangulation

In a triangulated⁷ study like this multiple methodologies are used. These will be both quantitative and qualitative:

- quantitative data coming from ER service’s 2002 users’ survey will be used as a starting point thanks to descriptive statistics provided by the ER service on users’ use of various typologies of electronic resources;

⁶ “In what we may call instrumental case study, a particular case is examined to provide insight into an issue or refinement of a theory” [Denzin - Lincoln, 1994].

⁷ “Triangulation is collecting information from several sources about the same event or behavior. This improve the quality of research; obviously, conclusions arrived at by using several different means are more likely to be corrected, and accepted as such”. In fact, “the purpose of triangulation is twofold. First, when two or more methods are employed, the researcher is able to address different aspects of the same research question, thereby extending the breadth of the project. [...]. Second, by employing methods from different research paradigms (positivist and interpretativist) the researcher is able to compensate for inherent weaknesses in each approach” [Gorman - Clayton, 1997].

- the operations of library's users searching electronic resources (with particular interest of those that are freely available online) will be observed by the researcher by adopting unobtrusive and structured⁸ observational methodology.
- personal semi-structured⁹ interviews will be conducted with reference librarian/s, with librarian/s charged to assist ER service'users in bibliographic research and with students that use both paper-based and electronic library's services (at least one time each for each of the last six months).

6.2. Sample, methods of data collection and data analysis

Sample

Survey: the "universe", that is to say the entire population on which we want to measure certain characteristics, has to be determined [Egghe - Rousseau, 2001]. This consists in the number of library's undergraduate users who have made use of the ER service during 2002.

Observation: it will be select a *systematic random sample* of ER service's users during two weeks observation.

Interviews: it will be selected a *purposive sample*, chosen by the researcher to include representatives from within the population being studied who have a range of characteristics relevant to the research project: this approach is called *stratification*. This is related to the principle of triangulation again. Here, instead of using different research methods, it will be interviewed a number of different people in different positions, in order to gather a variety of perspectives on the research problem [Gorman - Clayton, 1997].

⁸ "Structured observation samples an event or activity on a predetermined basis, using a prearranged instrument or form into whose categories the observer records whether specific activities take place, when and how often"; besides, "because this is essentially a statistical method it is usually considered to be a quantitative method" [Gorman - Clayton, 1997].

⁹ "The interviewer works from a pre-prepared list of issues. The questions, derived from the issues, are likely to be open-ended to allow the respondent to express himself or herself" [Gorman - Clayton, 1997]

Bias: the limitations of this research project must be acknowledged. The number of students and librarians will be small because of financial and human resources constraints that means that generalisation of the results is not recommended. Anyway, the research is replicable on a more vast scale thanks to the methodology adopted.

Methods of data collection

Each of these methods has inherent strengths and weaknesses. The key is to select and adopt the method that has the most strengths and fewest weaknesses in the context of the problem statement and objectives [Hernon, 2001]. Integrating these methodologies will allow to compare what subject may say they do or believe - their espoused beliefs - with what with they actually do or manifest as belief when observed in practice in the information setting chosen.

Survey: it plays a minor, but important role in the study. Quantitative data obtained through the questionnaires (closed questions) administered among ER service's users about their use of electronic resources will be used and elaborated in order to gain some background context for the study.

Observation: the observation of students was an integral aspect of the fieldwork and it was used to prepare the ground for the interviews. There was a need to witness the whole information process in motion and place Internet use in context. Besides, observation was used as an adjunct to the interview to increase and improve the data yield. Through observation it was also possible to establish general levels of Internet use.

On the one hand, observation provides more reliable measure of how people actually behave than data collected through surveys, focus groups or interviews and it is also useful to provide insights into unconscious behavior. In fact, the researcher is enabled to uncover patterns of behavior that reflect otherwise hidden attitudes or views and unconsciously affect participants. On the other hand, it may not tell the researcher

very much about the attitudes or self-perceptions of subjects. Moreover, reliability and validity tend to be low, especially for researches that don't imply multiple observers like this [Gorman - Clayton, 1997; Denzin - Lincoln, 1998].

Interviews: depth, open-ended interviews were the main research tool because they lent themselves so well to the investigation of the new, the changing, the controversial, and the ill-defined topic to be investigated. By means of them it will be tried to clarify the underlying issues related to the information-seeking behavior previously observed because they offer balance and corroboration where observed phenomena are complex or involve a number of factors. In fact, interviews provide detailed, in-depth information from subjects who know a greater deal about their personal perceptions of events, processes and environments. Besides, the interaction with the researcher can allow to move in new and perhaps unexpected directions, thereby adding both depth and breadth to one's understanding of issues involved. Anyway, it is important to underline that the spoken words have always a residue of ambiguity, no matter how carefully questions are worded and answers are reported or coded [Gorman - Clayton, 1997; Denzin - Lincoln, 1998].

Data analysis¹⁰

Computer data analysis software like SPSS, Nudist and so on require a considerable investment of time and expense and are more useful when working with large number of data, so they are not adopted in this piece of research.

The data gathered in the three different methodological approaches will be both qualitative and quantitative, but the study is concerned more with perceptions, attitudes and opinions than with the quantitative usage patterns of legal information resources.

First of all, a *descriptive statistic* has been carried out and *numerical discrete data* collected from ER service's users survey are organised and presented in a smooth,

¹⁰ "Our definition of data analysis contains three linked subprocesses: data reduction, data display and conclusion drawing/verification" [Denzin - Lincoln, 1998].

streamlined way so that conclusions are easy to draw. Here, our goal is only to understand and tell something about the data itself [Egghe - Rousseau, 2001]. Secondly, also the data gathered by filling observational forms¹¹ will be condensed into quantifiable analytical units by using a spread sheet like Microsoft Excel; data will be manipulated and reconfigured in attempt to discover patterns and connections not previously apparent, then they will be displayed in charts and graphs.

Thirdly, since, as Coffey and Atkinson suggest, many analyses of qualitative data begin with the identification of key themes and patterns which depends on processes of coding data, data obtained from recorded and transcribed interviews will be summarized and organized into broad coding categories and more specific sub-categories by using a basic word-processing program like Microsoft Word¹² [Coffey - Atkinson, 1996]. In fact, as Denzin and Lincoln notice, the *code-and retrieve method* supports theory emergence and also express theories that can be represented by codes and then tested by looking for codes in text and studying the relationship of codes. In fact, “the generation of categories, even the simplest descriptors, whether arrived at prior to data reading or by discovery of recurrent topics, or in vivo categories in text is a contribution to theory. [...]. Second, decisions about what text segments are relevant to a category are never merely clerical decisions; they always involve some theoretical consideration. Third, the viewing of segments from many documents on one topic or selected topics always offer a new way of seeing data” [Denzin-Lincoln, 1998].

Work plan

The scope of tasks to be completed and the time envisaged to carry them out is outlined in a Gantt chart (see appendix two).

¹¹ The observational forms used will be developed by the researcher on the basis of previous studies in the field and of professional literature on information-seeking behavior.

¹² “The code and retrieve process consists of labelling passages of the data according to what they are about or other content of interest in them (coding or indexing), then providing a way of collecting identically labeled passages (retriving)” [Denzin - Lincoln, 1998].

Setting

For observation: ER service' s office.

For interviews: they will have place in each staff member's office, while the students will be interviewed in the researcher's office. All interviews will be conducted individually and face-to-face. Ethical issues will be considered and privacy will be guarantee.

Funding

Since this piece of research will be carried out in the context of a master dissertation, no institutional budgetary funding or formal staff support is provided. This is the main reason why the research will be carried out only on a very small scale at the level of a pilot test.

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Appendix one: legal information in the 21th century

Legal information main and distinguishing features

Legal information is divided into two main types in common law jurisdictions, that is to say primary and secondary sources [Pannella, 1991; Dane - Thomas, 1987; et al.], while in countries based on civil law the division is slightly different (in Italy, for example, it is commonly divided into “legislazione”, “giurisprudenza” and “dottrina” [Bin - Lucchi, 2002; et al.]). Search aids like finding tools that are used to find out both primary and secondary sources play a main role in legal research since the body of legal information is constantly growing and is in a endless state of flux [Blunt,

1980; Pannella, 1991] and the law should be manageable, available, workable [Susskind, 1998].

Legal information and legal research between books and bytes

Legal research capabilities are severely hindered if technical aspects are ignored or de-emphasized [Pannella, 1991]. IT, though, can't be introduced as the panacea to overcome all the perceived deficiencies in today's legal information, because it has itself given rise to some of the very problems of legal environment [Hanson, 2002]. In fact, even if Internet and the World Wide Web have the potential to make legal information more widely available and easily accessible [Susskind, 1998], they have also brought seven key issues to be discussed: accessibility, coverage, currency, reliability, searchability, useability [Widdison, 2001].

Web enthusiasts like Pedley notice that electronic information:

- has the potential for cost savings (allows cheap updates, space savings and the management philosophy “just in time”, not “just in case”);
- brings increased benefits in the amount of information available;
- is characterized by hyper-textuality and multimedia facilities;
- can enhance users' access to information, thanks to full-text searching facility, the possibility of manipulating the information obtained and to the fact that digitised documents are able to be accessed by more than one person at a time and can be also accessed remotely by users outside the library, also when it is closed [Eastman - Pedley, 1998].

Besides, the present hybrid publishing environment often doesn't help library's budgets constraints [Eastman - Pedley, 1998]. This is particularly significant if we consider that, by using the economic theory called the Pareto principle, Chiarozzi argues that over 80% of the use of all legal materials is accounted for by the 20% of all the legal materials that are available online, so large research paper collections may become harder to defend against budget's cuttings [Chiarozzi, 2002].

By contrast, web sceptics like Eastman seem to be more cautious in evaluating the benefits coming from IT, especially in comparison with a paper-based environment.

They stress that books are:

- more portable, readable, permanent, because they don't require any equipment in order to be enjoyed, any compatibility or any special training;
- books have a breadth and range which electronic products cannot yet match.

Besides, they stress that the number of published books in the legal field is constantly increasing [Eastman - Pedley, 1998].

Appendix two: Research timetable¹³

WEEK/ ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
DISSERTATION PROPOSAL																											
Literature search																											
Problem identification																											
Meet and discuss project with unit tutor																											
Prepare and refine statement of the research problem																											
Gain agreement from unit tutor																											
Write down the dissertation proposal																											
FIELDWORK																											

¹³ The research project will take place from September 2003 till February 2004.

